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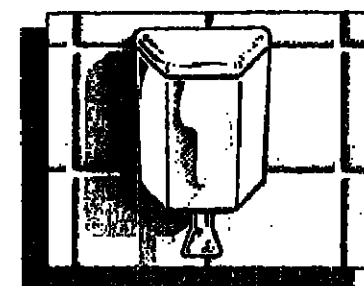
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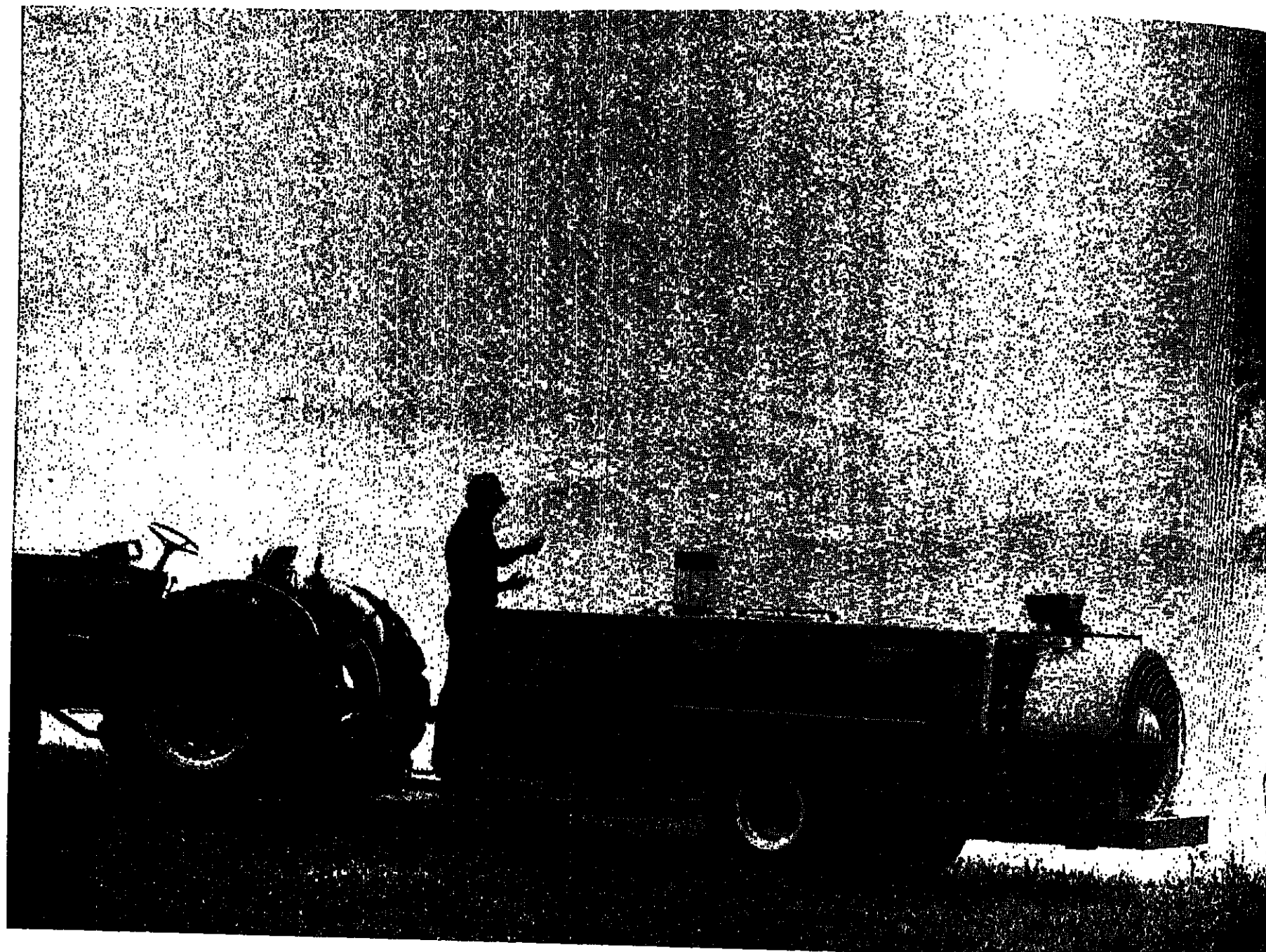
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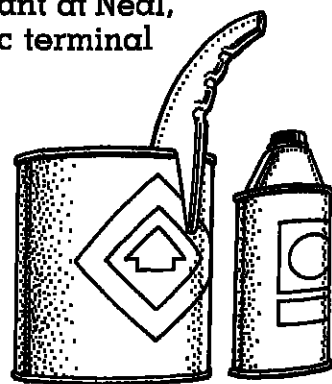
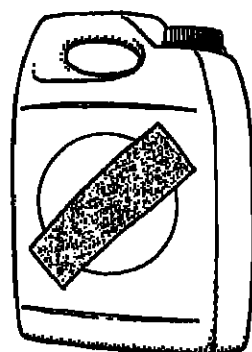
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CHEMICAL MARKETING REPORTER

December 8, 1986

BASF Acquires 'Zerex' Antifreeze Line

The antifreeze business has gone through a major shake-up in 1986. Three of the major product lines have been sold since last Spring, the latest being the announcement last week that BASF Corporation is buying the "Zerex" business from Conoco, Inc.

Last Spring, Union Carbide Corporation, the dominant force in the antifreeze business, sold its popular "Prestone" line to First Brands Corporation in a leveraged buyout. In August, Enron Corporation sold its "Prestone" antifreeze business to Old World Trading Company.

The three sales were all undertaken mostly as part of corporate strategies, rather than negative reactions to the antifreeze industry. However, sources say that together they will partly recast the supply arrangements in the business.

BASF has been looking for a national brand an-

tifreeze to complement its large and growing private label, bulk, and original equipment manufacturer markets for "Alugard" antifreeze. The company approached Conoco about buying "Zerex" and found a willing seller.

For its part, Conoco decided to sell "Zerex" after its parent company, Du Pont, said it would restrict the amount of raw material ethylene glycol for Conoco's antifreeze operations beginning next year.

Du Pont is the nation's largest consumer of ethylene glycol for polyester applications, and its consumption far outweighs the company's production capacity at Beaumont, Tex. Conoco decided to focus its antifreeze

Continued on Page 31

There are some major changes in the antifreeze business, but they are related to corporate strategies rather than the health of the market.



VOLUME 230
Number 23

Chemical Marketing Reporter

DECEMBER 8, 1986

FDA Gets Low Mark For Pesticide Tests

Two lawmakers promised new legislation last week after releasing a report critical of the Federal government's efforts in testing and monitoring imported food for possible contamination by pesticides or chemicals banned in the US.

"It's clear large quantities of fruits and vegetables, which contain pesticides that are banned by Environmental Protection Agency and can cause cancer and birth defects, are regularly allowed into the US," Sen. Pete Wilson, (R-Calif.) told a news conference.

"The bottom line is this," added Rep. Frank Horton (R-NY) "we don't adequately test or monitor food shipments — less than 1 percent of the more than one million annual food shipments to the US are tested to any degree. Nor do we enforce these laws through established fine and suspension mechanisms."

The General Accounting Office report concludes that Food & Drug Administration's pesticide monitoring program "provides limited protection against public exposure to illegal residues of food."

According to GAO, the investigative arm of Congress, FDA collected and analyzed 33,087 samples of imported fresh and processed fruits and vegetables from 1979 to 1985, and determined 2,066 (6.1 percent) contained "illegal pesticide residues."

"The level of contamination of imported foods may be even higher because of the inadequate way in which FDA has set up its monitoring and testing procedures," said Sen. Wilson.

The report says FDA regularly examines high-volume shipments of fruits and vegetables, but often neglects relatively small-volume shipments. GAO says some foods were not sampled once over a six-year period.

For example, it says FDA analyzed shipments from only 9 of 27 countries exporting cucumbers to the US from 1983 through 1985. A total of 17 countries have not had their cucumber shipments inspected since 1978.

Rep. Horton said he requested the report in July 1985 because of his belief that the government's performance in checking pesticide and chemical levels of imported foods was inadequate, largely due to a lack of resources.

"I think the report substantiates this con-

cern," says Rep. Horton. "We import more than \$23 billion in food each year. The public believes that the food it purchases is free from contamination and meets US pesticide and chemical standards. The report finds that this isn't always the case."

About 600 different pesticides are manufactured worldwide. But GAO says FDA has only a limited knowledge of the pesticides produced and distributed by foreign nations. Consequently, GAO contends it's nearly impossible for FDA to coordinate its monitoring and testing to specific commodities from specific countries.

"It turns out FDA has limited resources to sample foods for pesticides they believe pose

Continued on Page 20



J. Lawrence Wilson, who will succeed Vincent L. Gregory as chairman and chief executive officer of Rohm and Haas Company when Mr. Gregory retires in mid-1988. Mr. Wilson is vice chairman and director of corporate business for the company.

PPG Sees Record Earnings, On Way to Long-Term Goals

PPG Industries, Inc. anticipates record earnings in the \$5.30 to \$5.50 per share range for 1986, executives of the Pittsburgh-based firm said last week.

Robert H. Mitchell, PPG's vice-president of finance, and Robert D. Duncan, group president for chemicals, told a meeting of the St. Louis Society of Financial Analysts, projected \$4.84 per share in 1985.

Mr. Mitchell cites basic goals PPG intends to achieve by 1990: to strengthen and grow existing core businesses and areas of related technology, become a global company with a third of its business outside of the US, expand to new businesses, and realize 4 percent annual real sales growth, as well as an average 10 percent return on equity over an economic cycle.

To achieve these goals, Mr. Mitchell says, PPG is continuing to invest in plant modernization and new technology to maintain a low cost and product competitiveness.

His emphasizing value-added products to reduce PPG's reliance on commodity chemicals, expanding customer service capabilities, and moving into new businesses through development, as well as domestic and foreign acquisitions.

He says the company expects US gross chemical product growth of about 2.5 percent per year, "which will provide PPG with the opportunity for continued gains in performance."

acknowledging that the nation's chemi-

cals industry has been hurt in recent years by slowing growth rates, increased competition from foreign producers and environmental control costs, Mr. Duncan says PPG's mission has been to reposition and restructure its chemicals business, following strategies that parallel corporate goals.

Mr. Duncan says PPG has invested about \$500 million in facilities efficiency and productivity improvements during the past five years, with nearly \$300 million dedicated to PPG's chloralkali business and \$100 million to its polish business. Group employment has been reduced by more than one-third.

MOVE TO SPECIALTIES

"Unlike a number of other US companies, we felt that making a massive commitment to the specialty chemicals business wasn't going to be as attractive or easy as everyone was making it out to be," he says. "There simply isn't enough room on that particular life raft for everyone."

"We chose, instead, a balanced approach to our chemicals product portfolio, maintaining a commitment to our existing commodity businesses, where we enjoyed positions of strength, while growing in existing and new businesses — particularly in the value-added category."

PPG has focused its international chemicals expansion on the Far East, where a number of new initiatives have been taken during the past year, Mr. Duncan notes.

American Cyanamid Launches New Organic Flocculant Line

American Cyanamid Company hopes to enhance its leading position in the \$100-million-a-year organic flocculants market with a new "performance series" of dry and emulsion polyacrylamide-based products to serve the paper, mining, water treatment and coal processing industries.

The performance series is the culmination of the most highly focused polymer research and development effort in the history of the industrial products division," said Peter A. Ruliball, president of the division, during a briefing last week, at which the company introduced the new series.

CYANAMID STRATEGY OUTLINED
Explaining the company's strategy, Mr. Ruliball noted that the market for organic flocculants is "pretty mature," with only modest growth expected, so Cyanamid must achieve growth by going after a big market share.

"The company believes the new series of products will 'set the industry standards for performance.' The products are available in a range of ionic charge and molecular weight, including those in the high cationic range, the company says.

Mr. Ruliball says the new products will be "well marketed," meaning the company plans to produce the new series at its

recently expanded Mobile, Ala., plant, at Longview, Wash., and at the company's Bradford facility in the UK.

Cyanamid said last week that it has now completed an expansion of the Bradford plant, nearly doubling the facility's original capacity for dry polyacrylamide polymers. The plant supplies markets in the US and Europe.

Cyanamid's performance series is composed of four product lines: "Magnifloc" flocculants for water and waste treatment; "Superfloc" for mining; "Accoal-Floc" for coal processing; and "Accurac" retention aids for the paper-making industry.

The "Magnifloc" flocculants are designed for use in chemical, pharmaceutical, industrial and municipal sludge treatment operations. The "Superfloc" product meets or exceeds those currently used in ore and tailings thickeners in the gold mining industry, according to the company.

Cyanamid says the "Accoal-Floc" flocculants provided savings of up to 30 percent in reduced polymer usage during plant evaluations, while the "Accurac" products demonstrated significant increases in first-pass retention in alkaline and acid paper systems.

In addition to the Longview, Mobile and Bradford plants, Cyanamid says it has the capability to produce polyacrylamide polymers at 12 additional plants throughout the world.

December 8, 1986

CHEMICAL MARKETING REPORTER

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BOARD ELECTS OFFICERS: The board of directors of Union Carbide Corporation has elected Robert D. Kennedy chairman of the board and J. Clayton Stephenson vice-chairman. Mr. Kennedy succeeds Warren M. Anderson, who retired as chairman of the board at the corporation's mandatory retirement age on November 30 after 41 years at the corporation.

Styrenics, Engineering Resin Get Top Priorities With Arco

Arco Chemical Company is reinforcing its commitments to polystyrenics and engineering resins businesses with a series of plant expansions and introduction of a major new product for the automotive market.

James Cobb, vice-president, polystyrenics and engineering resins, says capacity for production of polystyrene-based resins has been increased to 620 million pounds, the result of a series of plant expansions.

Included are debottlenecking of the company's Monaca, Pa., plant, producing "Dylark" copolymer, and expansion of the Arco-Styrene Paper, (JSP) joint venture facility for production of polyolefin foam resins at the same site.

The increase in polypropylene and polyethylene head capacity, he notes, will be completed in 1987, a full year ahead of plan.

Speaking to press editors at a meeting in New York last week, Mr. Cobb said the 620-million-pound total polystyrenics figure is "a number" for the company, but he declined to give a further breakdown "because we run our plants two or three different ways."

The Arco executive also announced development of "Fibre-Cor" composite, the result of a joint effort by Arco Chemical and Sack-

ner Products, Inc., a leading supplier of automotive non-woven padding.

The thermoplastic laminate, consisting of two outside layers of non-woven fibers with a middle layer of foamed "Dylark" resin, has many potential automotive applications, the most significant being headliners.

Jessie Jefferson, manager, engineering resins and automotive sales, revealed that the "Fibre-Cor" composite has been specified for headliners in several 1988-'90 model year cars and is an important element in development programs under way at major manufacturers.

Details of the new product will be unveiled at the Society of Automotive Engineers show in February, he says.

But the company is no stranger to the market for automotive interiors. Mr. Jefferson says that over 50 million cars produced in the last ten years contained instrument panels and other interior parts molded of "Dylark" resin. Other Arco materials used include "Arloy" engineering resin for grilles, trim plates, and consoles, and "Dyltherm" expandable copolymer for a variety of energy absorbing parts.

The latter, Mr. Jefferson points out, has become the material of choice for several new parts being incorporated in 1987 models.

Continued on Page 21

Bhopal Court Lifts Injunction On Carbide Restructuring

Union Carbide Corporation resumed its recapitalization and asset divestment program last week after the Bhopal district court lifted its temporary injunction against the restructuring scheme.

The government of India, which is suing Carbide on behalf of victims of the Bhopal gas leak, sought to block the program, arguing Carbide was putting the interests of creditors ahead of those of the Bhopal victims.

The court lifted its interim injunction issued November 17 after Carbide proposed to maintain unencumbered assets worth \$3 billion to satisfy any potential judgments against the company.

The Indian government disclosed late last week that it would ask the court for at least \$3 billion from Carbide. According to the government's latest estimate, 2,347 people died as a result of the poisonous gas leak from Carbide's Bhopal pesticide plant two years ago, while 30,000 to 40,000 people suffered serious injury.

In a statement last week, Carbide emphasized that its offer to maintain the \$3 billion in assets was not "an admission of liability" for the gas leak, which Carbide contends was the result of an act of sabotage by a disgruntled Bhopal plant employee.

Carbide has said it will identify the former employee at a later date.

Carbide said it was "pleased" last week that the court lifted the injunction, saying it "can now proceed with its business and follow through on its recapitalization program, which we believe benefits everyone concerned."

As previously reported, the recapitalization program involves the repurchase by Carbide of some \$2.5 billion in debt accumulated by the company to fight off GAF Corporation's earlier hostile takeover effort. The debt is in the form of high-cost "junk" bonds.

The injunction not only threatened repurchase of debt, but also the sale of Carbide's agricultural chemicals business to Rhone-Poulenc of France and the sale of its Danbury, Conn., headquarters building. Sale of the two assets would raise more than \$900 million.

Carbide also plans to offer around 25 million shares of common stock. A registration statement has been filed with the Securities & Exchange Commission but has not yet become effective. The sale could raise another \$500 million for the company.

Dow Takes Long View Of Slow-Growth Mart

Annual industry growth in glycerine demand is expected to average approximately 1.5 to 2 percent, keyed to GNP and improvements in major markets. Demand by producers of alkyd resins, cellophane and explosives is expected to decline, while growth in the drug, toothpaste, food and cosmetic industries will take up the slack. Few or no new end uses are foreseen.

That may well be the long-term scenario, but US producers are in a different ball game for this year at least. Dow Chemical Company, which is targeting the second quarter of 1987 as the completion date for a modernization program that will add 30 million pounds of capacity to its 110-million-pound Freeport, Tex. synthetic glycerine plant, thinks demand in the US will increase by 13 to 17 percent this year over 1985.

The company says consumption in the 1980's has moved from a low of 220 million pounds to its present high of 330 million pounds. As a result demand is, for the moment, pressing on an industry capacity of some 380 million pounds and imports are well ahead of the 1985 level, while exports are lower.

For next year, Dow thinks imports should level off, but that it will be difficult for exports to regain their former strength as new soap and detergent production in third world countries provides the necessary glycerine.

With Dow as the sole remaining US producer of synthetic glycerine—Shell Chemical Company and FMC Corporation dropped out of the business in the early 1980's—the balance of US supply has come from produc-

ers of natural material, largely Procter & Gamble Co.

P&G has had sufficient confidence in the long-term future of the market to schedule a major increase in its refining capacity from the current 110 million pounds to almost 200 million pounds by 1990.

Continued on Page 17



DOW GLYCERINE: Dow Chemical Company, only remaining US producer of synthetic glycerine, will complete a modernization program in the second quarter of 1987.

Silicones Get Nod

Silicone fluids, used in applications ranging from plastics processing aids to brake fluids, may soon take over the heat-transfer market, a spokesman for Dow Corning Corporation said last week at a meeting in New York.

It's felt higher performance levels, low toxicity and longer life should enable silicone fluids to replace traditional organic liquids in heat-transfer applications, particularly high temperature and low temperature single fluid systems. The systems are used in solar energy and fuel cogeneration, as well as industrial cooling and heating applications.

While there are currently four other producers of silicone fluids in the US, including General Electric Company and Union Carbide Corporation, Dow Corning lays claim to being the only maker of silicone heat-transfer fluids.

The company's "Syltherm" product

line developed in the 1970's when the energy crisis forced industry to look at cheaper alternative energy sources, was based on a heat-transfer liquid called "Syltherm 444," an unmodified silicone fluid. An improved product, "Syltherm 800," a modified polymethylsiloxane, was introduced in 1978 and was first used in industrial heat-transfer systems installed in 1979.

With the Shenandoah project in 1981, the largest solar energy project in the US, Dow Corning began its first marketing push. In 1984, it set up a special "Syltherm" technology and marketing service in Houston; this year, it has begun a full-scale marketing effort.

Dow Corning reports that over 100 installations have been set up since 1979, involving 60 companies in the polymer, Continued on Page 35

Nutrasweet Puts \$22 MM More Into Georgia Aspartame Unit

Nutrasweet Company will install new proprietary technology to improve aspartame manufacturing methods at its Augusta, Ga. plant. The \$22 million project will include equipment modifications as well as process improvements, the company says.

Robert B. Shapiro, chairman and chief executive officer, says the fact that the company is upgrading a facility that is only two years old "demonstrates our commitment to build upon our position of worldwide technology leadership and cost leadership in aspartame manufacturing."

The Augusta plant received approval for the project in late July and initial construction began in September. The new technology is being installed beginning this month and is scheduled to be completed by March 1987. The initial plant was completed in late 1984 at a cost of \$180 million and became fully operational in March 1985.

Announcement of the project follows closely Food & Drug Administration's rejection of a petition by the Consumer Nutrition

Institute, which sought a ban on aspartame for health reasons, and approval by the agency for use of the sweetener in four major new food and beverage categories.

Among new products which can be made available under the FDA approvals are refrigerated juices in ready-to-drink concentrated and frozen packages, ready-to-eat frozen desserts on a stick, such as fruit and dairy bars, frozen puddings and gelatins, and breath mints.

Coca Cola Company and Tropicana Products, Inc. asked for approvals of the uses in juices and desserts and Shaklee Corporation for the breath mints.

Sales of "Nutrasweet" brand aspartame sweetener were over \$700 million in 1985 and \$597 million in the first nine months of 1986. The company, a wholly-owned subsidiary of Monsanto Company, says it will spend about \$25 million this year on research and development focused on aspartame cost improvements, new applications and new product development.

Shapiro is 1:16

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News Capsule

Sterling Buys Business

Sterling Drug Inc. has acquired substantially all of the prescription pharmaceutical line of Schwartzhaupt GmbH of West Germany. More than 15 products included in the acquisition will be sold in West Germany by Winthrop GmbH, Sterling's marketing organization for prescription and OTC products.

Shorex Chemical Expands

Shorex Chemical Company has expanded its fatty amine capacity at Maple, N.J. The new process area will provide a 50 percent increase in nitriles, primary, secondary and tertiary amines and di-amine capacities. Earlier this year, Shorex put 40 million pounds of surfactant capacity on stream at Janesville, Wis.

Shell Unit Modernizing

Ward Blenkinsop & Co., Shell's fine chemicals unit, is planning a \$42 million modernization of its manufacturing facilities in Cheshire, UK. Plans call for a new multi-product processing unit, extensions and modifications to existing plant, a new laboratory and infrastructure work.

ICI Sells Businesses

ICI Holdings Corporation, Chicago, has agreed to sell its personal products operations and cosmetic companies for \$1.15 billion in cash plus a new issue of preferred stock to new companies organized by members of management and Drexel Burnham Lambert Inc. The preferred shares have an aggregate liquidation preference of \$100 million.

Solright Discloses Terms

Solright Company Inc. says it expects to complete its previously announced acquisition of Packaging Industries Inc. by December. The company has agreed to pay about \$23 million in cash for the Florida-based manufacturer of flexible plastic packaging for the food industry.

Clinical Sciences Enters

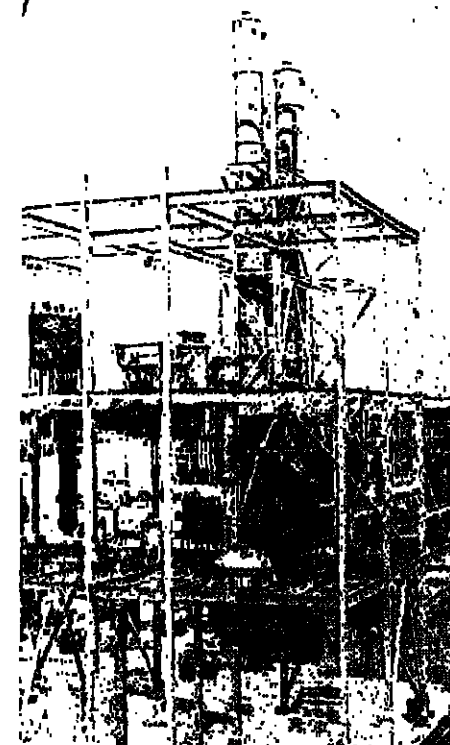
Clinical Sciences Inc., Whippany, N.J., will market several diagnostic kits for the \$70 million hepatitis B diagnostic market using patented technology of Sanofi Biomedica SA, a subsidiary of Sanofi-Sintabo Group. The arrangement is part of a larger agreement involving a "joint commitment" of capital and technology to Clinical Sciences by Fiat, the company says.

Aero Unit Expanding

Aero Solar Inc., a subsidiary of Atlantic Richfield, plans to expand its thin-film solar electric module manufacturing capacity to more than 1 million square feet per year in 1987. The company cited overwhelming market demand and advances in TFS module efficiency as the reasons for the move.

Uni Wins Contract

Compagnie Generale, a unit of ENI, has been awarded a lump sum turnkey contract worth approximately \$140 million to design and construct the second South China Sea offshore complex. The complex will double the gas production of the field, located off Bombay, India, increasing the availability of natural gas for export and production of petrochemicals and fertilizers.



BASF AT GEISMAR: BASF Corporation's new 'PolyTHF' plant under construction at Geismar, La., is slated to start up in the third quarter of 1987. The unit is part of a major expansion in acetylene chemicals at the site.

BASF Slates Specialty Unit For '87 Debut

BASF Corporation has started up an addition to its 1,4-butanediol plant at Geismar, La. and is targeting the third quarter of next year as the completion date for a new specialty unit now under construction at the site.

The 1,4-butanediol addition lifts BASF's capacity at Geismar to 155 million pounds. Acetylene for the facility comes from the neighboring Borden, Inc. chemical complex in which BASF has an equity interest.

When BASF AG completes the expansion of its 1,4-butanediol plant at Ludwigshafen, West Germany, in early 1987, the combined capacity of the BASF Group will total 400 million pounds.

Construction of a \$25 million polytetrafluoroethylene ether glycol ("PolyTHF") plant in Geismar is scheduled for completion in the third quarter of 1987. The unit consists of the new "PolyTHF" plant with capacity of 24 million pounds a year and tetrahydrofuran capacity which is being increased to 44 million pounds per year.

BASF says the new unit will use a proprietary process that allows a high degree of flexibility in producing a wide range of products to meet individual customer requirements.

The company primarily sells 650, 1,000 and 2,000 molecular weight grades of "PolyTHF" in bulk and drums, but says it is in a position to sell 250 other molecular weights as well.

The unit completes the company's range of specialty diols/triols for the urethane and plastics industries. Additional products include 1,4-butanediol, 1,6-hexanediol, 1,5-pentanediol, neopentyl glycol, hydroxypropyl acid neopentyl glycol ester and tri-hydroxyethyl isocyanurate.

In addition to the investment in capacity expansion and product line extension, new computer controls are being installed.

Monsanto Expanding Alkylbenzene Unit

Monsanto Chemical Company says it will start construction within the next several months on a 50-million-pound expansion of the linear alkylbenzene production unit at the company's Chocolate Bayou plant in Alvin, Tex.

The expansion, approved by Monsanto's board of directors, will be in operation late 1988 and will bring the unit's annual capacity to 300 million pounds.

Schering-Plough Aims For \$5 Per Share in '87

Earnings per share of Schering-Plough Corporation, the diversified producer of pharmaceuticals, biotechnology products and consumer products based in Kenilworth, N.J., should comfortably exceed \$5 per share in 1987, Robert P. Luciano, chairman and chief executive officer, told a meeting with security analysts at company headquarters last week.

With the acquisition of Key Pharmaceuticals, a leading producer of transdermal formulations, earlier this year, and the introduction of several new products, earnings will continue to increase substantially, Mr. Luciano told the analysts.

A significant development in 1986, Schering-Plough's CEO noted, was the introduction of the company's first genetically derived product, "Intron A" (interferon alpha-2B). Also the company claims to have scored a phenomenal success with its new diet-add product, "Fibre Trim."

Stating that research and development is the "sine qua non for success in the pharmaceutical business," Mr. Luciano reported that the company this year has allocated \$210 million for that activity, as compared with

only \$100 million as recently as 1981.

As previously reported, Schering-Plough's management affirmed confidence in the company's progress by proposing a two-for-one split of the company's shares, and a dividend increase to \$2 per share (pre-split basis) beginning in May of next year.

Richard J. Kogan, president and chief operating officer, told the analysts that the company's growth rate in this quarter is significantly ahead of that of the third quarter, and sales for the full year will surpass \$2 billion for the first time.

Detailing success of individual products, Mr. Kogan noted that:

- The Key allergy product "Theo-Dur," now the company's largest selling offering, should have full-year sales of more than \$100 million this year.

- Strong 1986 sales gains are being achieved for flutamide, a treatment for prostatic cancer. Sales quadrupled in the first nine months from the same period a year ago and will approach \$15 million for the full year.

- In cardiovascular, sales of "Normodyne" antihypertensive have more than doubled so far this year and should easily exceed

Continued on Page 27

Phosacid Charge Denied

Societe Chimique Prayon-Rupel SA and its United States sales agent, Nitron Chemical Corporation, have denied dumping and subsidy charges brought by FMC Corporation and Monsanto Company (CMR, 12/1/86, pg. 7) against the purified wet phosphoric acid Prayon and Nitron import and sell in the US.

The companies say they've told the International Trade Commission that their success in the US industrial phosphoric acid market is due to a patented and more efficient process for producing industrial-grade phosphoric acid that has a substantial cost advantage over the older, thermal production process still used by the US industry.

"Imports of Prayon's product, indeed industrial phosphoric acid imports in the aggregate, represent an insignificant part

of total US consumption of industrial phosphoric acid," the firms say in their statement to the commission.

"In comparison with other forces affecting domestic producers, any effects of imports are negligible." They maintain that, in spite of stagnant or decreasing demand for phosphoric acid and the end products of the acid manufactured by FMC and Monsanto, the US producers' phosphoric acid operations have remained profitable, their sales have increased, and over the last several years, their prices have risen substantially.

Alain Flaesch, deputy general manager of Prayon, says his company intends to defend itself "vigorously" against the charges and expects its position will be "vindicated."

PVC Makers Look for Growth As Environmental Fears Ebb

Producers of polyvinyl chloride are confident that the market for this plastic will continue to grow, as environmental fears, particularly in the plumbing, electrical conduit and food packaging areas, are allayed.

According to the Vinyl Institute, a trade association representing leading producers of the plastic, the market for US-produced PVC should grow by 8 percent this year, to 7.3 billion pounds (including exports).

Although they expect growth to slow down to around 3 percent next year as new tax legislation and changing interest rates impact construction, which accounts for over 60 percent of the total PVC market, the long-range projections for the market are optimistic.

Piping, draining and vent applications, which currently account for about 3 billion pounds of demand per year, should more than double in the next three to five years, says Ray Gottesman, executive director of the Institute, as designers and builders' perception of the plastic change.

Similarly, demand for food-grade resin in packaging applications should reach almost 600 million pounds by 1988, he says.

In a recent survey of 550 architects, builders and code officials throughout the country, most professionals praise the durability of the material and say they plan to use more of it in the future, particularly in electrical conduit applications.

According to the study, sponsored by the

Institute, siding and plumbing pipe applications currently have the highest recognition levels among building professionals.

Lower recognition levels were found for window, flooring and gutter uses. According to Mr. Gottesman, this represents a challenge to the industry to communicate the benefits of vinyl products more broadly.

Controversy has surrounded the use of PVC in electrical wire and cable and plumbing pipes since 1982, when the first Fire Toxicity Conference issued data on PVC's toxicity in fire situations.

This same year, a study conducted by James Montgomery consulting engineers in California showed that PVC plumbing pipe leached harmful chemicals into drinking water.

Not surprisingly, the Vinyl Institute was founded that year, to modify what producers feared were developing misconceptions about the plastic.

Despite the fact that PVC has been fully approved by EPA and NSF for use in plumbing and wiring applications, and that the three national model building codes universally approve its use in piping and electrical conduit, there has been a movement to block its use in plumbing pipe in California, where union plumbers filed a suit restricting its use in 1979. In 1982, they were granted a court order halting new approvals of PVC pipe.

Makers of vinyl have long hoped that the plastic would fully replace metal in water

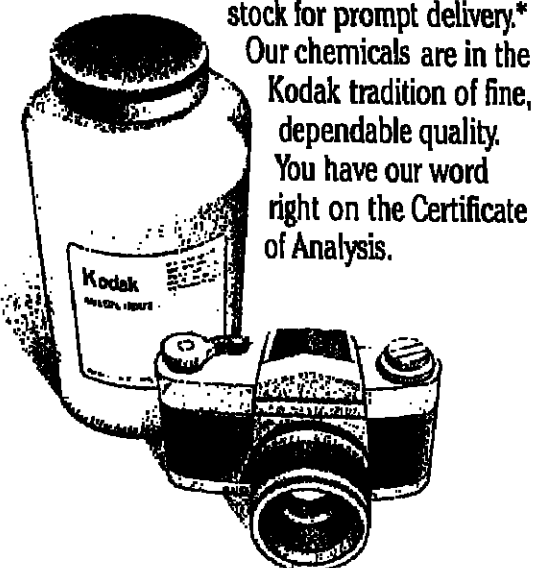
Continued on Page 33

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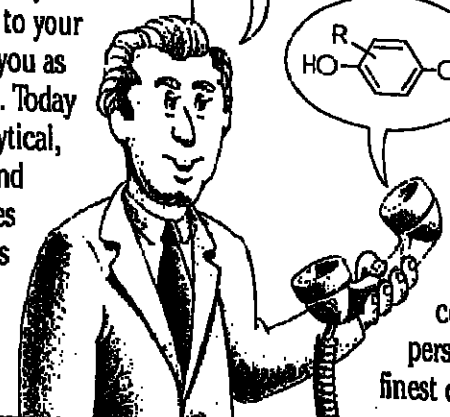
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OILS, FATS & WAXES

Soybean Oil Trends Higher, But Basic Support Is Lacking

The price of soybean oil has been moving upwards during the past few weeks, and market players expect to see the price fall back down before the year is out. Expressing the feeling that the price is artificially high without the necessary market conditions in place to support it, traders believe that large supplies and demand levels will deflate current pricing.

The current seemingly strong pricing is attributed partly to an anticipation of buying in the next month. Mostly, though, traders cite the fact that oil stocks have not been built up to the degree that had been expected.

Steadily rising crush rates throughout the month of October led many traders to believe that oil supplies would rise to levels greater than demand could accommodate, resulting in depressed pricing. Apparently, though, heavy domestic buying in October and November was sufficient to prevent predictions of very heavy stocks from panning out. Oil supply is said to be more than sufficient to meet demand, and traders believe that the lack of buying interest being felt in the market lately, will result in weaker pricing before the end of the year.

Current demand levels are said to be very low for both domestic and foreign markets. Exports from US government-supported sales of soybean oil is being exported, sources say.

DOMESTIC BUYERS INACTIVE

Likewise, domestic buyers have been very inactive for the past couple of weeks, according to industry sources. "We're still seeing a lot of old sales going out, but there's no new business coming in," says a source.

The high demand that is usually seen a month or so before the holiday season has been subdued, leaving many buyers with more oil than they need. "There was a lot of buying back in October, especially on soybean oil," says a source, who sees this as a reason for the present lack of buying. The market is in for a slow period for the next month or so, he says.

Industry observers differ on the present likely future condition of meal demand and soybean crush rates. Some market players are expecting to see crushers taking a breather later this month. They say that the crushers will be unwilling to run at high levels in light of the decreasing margins that are being seen now.

FRIDAY SPOT PRICES MARKET CLOSE DEC. 5, 1986

CRUDE VEGETABLE OILS	
Corn oil, NY	21 1/4
Corn oil, Midwest	21 1/4
Corn oil, Valley	21 1/4
Corn oil, Minneapolis	21 1/4
Peanut oil, NY	28
Peanut oil, Southeast (restricted)	28
Soybean oil, Decatur	16 1/2
REF. VEGETABLE OILS	
Corn oil, NY	27
Corn oil, Midwest	27 1/8
Corn oil, Valley	27 1/8
Corn oil, Minneapolis	27 1/8
Peanut oil, NY	34 1/8
Soybean oil, NY	16 1/2
OILMEALS	
Soybean, 44% bulk, Memphis	110
Soybean, 44% bulk, Chicago	110
Soybean, 44% bulk, Decatur	110
FATS & GREASES	
Beef tallow, white, choice, tank, NY	11 1/4
Beef tallow, yellow, medium, 10%, tank, NY	10 1/4
Lard, white, bulk, tank, NY	13 1/4
Lard, yellow, bulk, tank, NY	13 1/4
Lard, white, bulk, tank, NY	13 1/4

Others, however, believe that demand will be strong, and that consumer activity will keep the crushers busy. Meal demand for feed generally increases in early winter, says a source, making it unlikely that crushers will be in a position to ease off on production. If they respond to the expected strong demand, oil availability will grow, stocks will continue to build, and prices will have difficulty maintaining much strength.

VEGETABLE OILS

CORN OIL — Availability of this oil is remaining tight, helping the price to maintain its current strength. "It's very difficult to find anything for quick shipment," says a source.

PRICES TRENDLINES

WEEK ENDING DEC. 5, 1986

CHANGES/UP

Coconut oil, NY, 24c. per lb.	
Corn oil, Midwest, 1 1/4c. per lb.	
Cottonseed, 41% bulk, Memphis, \$20 per ton	
Cottonseed oil, Valley, 1/2c. per lb.	
Linseed, extracted, 34% bulk, Minneapolis, 35c. per ton	
Peanut, 50% bulk, SE, \$25 per ton	
Soybean, 44% bulk, Decatur, \$12.20 per ton	
Soybean oil, Decatur, 44c. per lb.	

CHANGES/DOWN

Palm oil, NY, 87.5c. per lb.

OILS, FATS INDEX

The Oils, Fats & Waxes index reflects the prices of 11 representative materials in this sector and the quantity of each produced in 1985.

Dec. 5, 1986	85.83
Nov. 28, 1986	80.75
Nov. 7, 1986	82.74
Dec. 6, 1985	86.11

Chemical Prices Start on Page 36

source, who notes that a buyer wanting nearby oil would have to wait for a thirty day shipment.

Trading has been very light in the corn oil market, sources say, calling this period the "holiday doldrums." Most of the buying that is going on is said to be hand to mouth, with very few forward purchases being made.

Despite the lack of oil for immediate shipment, there is said to be some lessening in the supply crunch. Low levels of buying, are allowing "some catching up" in the market, sources say. Strong demand a few weeks ago had corn oil almost impossible to find. Refiners are still running at or above normal levels, even as buyers are staying away from the oil. At this point, although material remains tight, there is some improvement being seen in the situation.

SUNFLOWERSEED OIL — The price of this oil has fallen about one cent, to currently quoted levels of 14 1/4c. to 15c. per pound for crude oil, f.o.b. Minneapolis. The drop is attributed to lack of buying interest and lower levels on the Chicago Board.

Previously the price had been fairly firm. Crushers had been buying seed "aggressively," says a source, and some tightness in availability of seed resulted. Now, however, this pressure has eased off, and the price has come with it. Ample supplies are expected to keep prices weak.

Sun oil producers had been hoping to see some business from Mexico, but so far that has not materialized. In fact, Mexico recently bought a cargo of the oil from Argentina, according to an industry source, casting some doubt on the likelihood of orders to the US in the near future.

FATS & GREASES

TALLOW — The tallow market is standing firm at strong levels, with prices not expected to falter any time soon. Heavy buying

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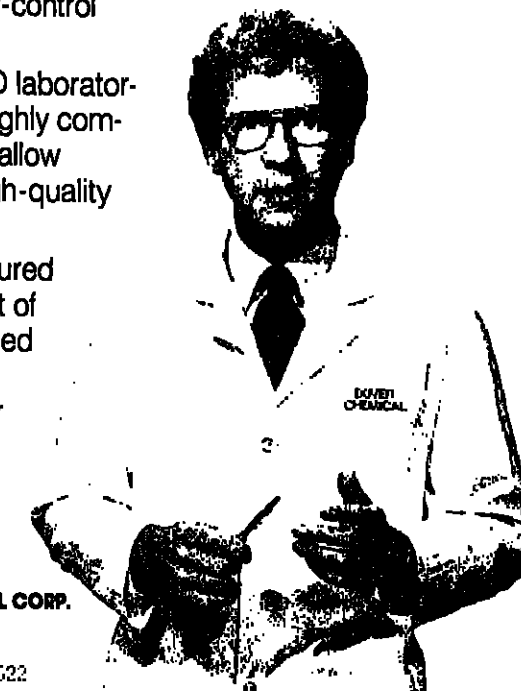
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OILS, FATS & WAXES

by US exporters is said to be contributing to the strong position of the market. Exporters who oversold several months ago, based on high production levels at the time, have been coming into the market to cover these sales lately in a period of slack production, according to an industry source.

Consequently, consumers coming into the market are finding firmer prices. The result of this activity has been snug supplies and strong pricing. Helping the market to maintain its firmness is good, steady export business for the past few weeks. This, plus steady domestic interest, is keeping spot material hard to come by, while forward positions are more readily available, sources say.

FATTY ACIDS

TALL OIL FATTY ACIDS — Production of tall oil fatty acids (TOFA) was up in October compared to September, according to figures made available by the Pulp Chemi-

cals Association. Production of two percent and more rosin content TOFA was 17,344 pounds in October, up 11.9 percent from September's figure. For TOFA containing more than two percent rosin, output hit 21,671 pounds, up 33.7 percent from the previous month.

TOFA producers have been enjoying some improvement in the economics of the market since crude tall oil (CTO) prices fell at the beginning of this quarter. The drop in prices for raw materials has allowed better margins for TOFA producers. However, the market continues to be troubled by overproduction relative to demand. "The world market for fatty acids is at a low level," says a source, "worsening the already burdensome oversupply problem."

Most market players are finding that prices are being discontinued off listed levels, as producers try to compete with fatty acids from other sources. There is some indication that prices have bottomed out, and that they may begin to ease back up in coming months, according to industry sources.

Fertilizer Group Criticizes Loan

Last week's action by the US Export-Import Bank to approve a Jordanian phosphate industry loan makes a "mockery" of the US Congress and is indicative of the bank's total disregard for the governing body's existence, according to a spokesman for the Fertilizer Industry. Gary D. Myers, president of the Fertilizer Institute, said he was "astounded" that Eximbank chose to violate a congressional reauthorization measure which is barely a month old.

Eximbank announced that it would be providing a \$20 million credit request from US Export-Import Bank to provide two walking draglines to the Jordan Phosphate Mining Co.

Mr. Myers says the approval should have been impossible because Congress last month barred the use of all Eximbank loans to establish or expand production of agricultural export commodities if such products are in world surplus, if they compete directly with similar US products, or if assistance would cause substantial injury to US producers.

"In the case of phosphates, we have gone beyond all doubt that all three situations apply," Mr. Myers says. "If Eximbank approves this request, it can approve anything."

Although Eximbank admits that phosphate is in surplus and that the Jordanian expansion will cause a drop in US exports, it argues that the benefit to the dragline industry from Eximbank's support of the project would "outweigh substantially the potential injury to US phosphate producers."

Mr. Myers says he will alert congressional leaders that Eximbank has ignored the terms of the new reauthorization guidelines.

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AROMATIC ORGANICS

Benzene Pricing Is Driven Up By Downtime, Heavy Demand

Strengthening spot benzene pricing driven by supply outages and heavy derivatives demand has sparked a mid-month increase in contract pricing. Industry sources say that hydrodealkylation production has been turned on to meet the market's needs.

"Benzene is a pretty hot item," says a trader. While "most cargoes have been spoken for already," he observes, "people are still hungry for benzene."

The spot market is quoted at 98 cents per gallon, a substantial increase from the previous week's 93-cents-per-gallon level. The spot price one month ago was 85 cents per gallon.

Shell Chemical Company reportedly raised its contract price 8 cents per gallon for December 15 by removing a portion of its temporary voluntary allowance. The effective price increases to 98 cents per gallon from the previous level of 92 cents per gallon.

Other producers, most of whom have been at the 90-cents-per-gallon level since December 1, are expected to follow Shell's move. Standard Oil Company's contract posting for December 1 has been 95 cents per gallon.

PRODUCTION DISRUPTIONS

In their notification to customers of the price increase, Shell reportedly said that it experienced a serious disruption of production at its 150-million-gallon-per-year Deer Park, Tex. facility around the end of November and expects to resume normal operations shortly this week. Adjustments in the schedule of shipments are believed to have been necessitated by the outage.

During this quarter, Exxon Chemical Canada, Petro Canada Ltd., and Shell Canada have also experienced unexpected supply disruptions. In addition, production at Island Oil's Alliance, La. plant is said to have been back recently due to a mechanical problem.

Producers say that strong derivatives demand, particularly for styrene production, has contributed to market tightness. Rising prices are cited as a factor behind the benzene price movement, although styrene producers say their prices have risen in response to the benzene market.

FIRM SINCE AUGUST

Either way, both markets have been firm a recent months. The latest spot benzene price of 98 cents per gallon is 30 cents per gallon higher than its mid-August bottoming of 68 cents per gallon, where it was driven by falling crude oil prices down to 88 cents per gallon. Benzene contracts have risen during this period to 94 cents per pound from 18 cents per pound.

Because toluene pricing has been considerably higher than benzene in recent months, a large price spread between the two has developed.

Toluene is quoted on the spot market at 89 cents to 70 cents per gallon, putting it 28 cents to 38 cents per gallon, or 29 percent to 40 percent above benzene. One month ago, the spread was 20 cents per gallon (24 percent), and two months ago it was only 7 cents per gallon (9 percent).

In the second half of the year, when hydrodealkylation (HDA) capacity was a major factor "contributing to shortages of benzene experienced in the market," says one industry source, "and another comments that 'with demand across all derivatives as strong as it is, there is no doubt that HDA has been needed for some time, going back to the first quarter.'"

More recently, however, has the price spread between benzene and toluene widened to an attractive enough breadth for hydrodealkylation.

Industry estimates that major hydrodealers are able to foresee one-and-one-half to

three months of profitable production before starting up a unit. This is said to be the case even though HDA units are "among the most forgiving" in the industry, and "can be turned on and off like a light bulb."

One major hydrodealer says the current market conditions "will turn on even marginal hydrodealers." Because of the industry's production problems and strong demand, HDA activity "will approach the shortfall," but

PRICES TRENDLINES

WEEK ENDING DEC. 5, 1986

CHANGES/UP

None

CHANGES/DOWN

None

AROMATICS INDEX

The Aromatic Organics index reflects the prices of 14 representative materials in this sector and the quantity of each produced in 1985.

Dec. 5, 1986	167.84
Nov. 28, 1986	167.84
Nov. 7, 1986	167.84
Dec. 6, 1985	167.84

Chemical Prices Start on Page 36

should not have a dramatic impact on benzene pricing, he says.

An industry analyst expects benzene pricing to move slightly higher, then stabilize, and then fall back slightly in the coming weeks as the additional production is felt in the market.

A trader says that the startup of HDA units "sometimes can depress the market price on benzene, or at least keep a lid on it, but I think this time it will not be more than the market is demanding."

One hydrodealer says he is most concerned with obtaining enough toluene to operate the unit because "copious amounts" of material are moving into the gasoline pool, even though octane demand is declining seasonally.

An analyst observes that "not too much toluene is extracted and available anymore," but is being kept in the gasoline pool, and a trader partially attributes thinness in the toluene market to this factor.

OXYNAPHTHOIC ACID — American Hoechst Corporation says it will raise the price of b-hydroxy naphthoic acid (b-oxynaphthoic acid) by 25c. per pound, effective January 1.

The price for contract and truckload quantities moves to \$2.50 per pound from \$2.25 per pound, and the price for less than truckload quantities moves to \$2.80 per pound from \$2.35 per pound. Prices are f.o.b. warehouse or US shipping point, duty paid.

The company says the weakening of the US dollar in relation to the Deutschmark is a cause for the price change on this product which is said to be used primarily in pigment manufacturing.

PHENOL — Producers have announced price increases for January 1. Dow Chemical USA will raise its list pricing by 5c. per pound, to 32c. per pound from 27c. per pound. Dow's selling prices will move up 5c. per pound less a 2c.-per-pound temporary competitive allowance.

BTL Specialty Resins Corporation will increase its selling prices by 4c.-per-pound less a 2c.-per-pound temporary voluntary allowance.

USS Chemicals will raise its selling price by 5c. per pound less a 2c.-per-pound TVA. Producers attribute the price movement principally to higher feedstock benzene

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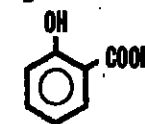
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AROMATICS

costs. Other producers are believed to be moving in kind.

STYRENE—A number of styrene producers are posting a 26c. per pound price this month. Included are: Borg-Warner Corporation, Dow Chemical USA, Fina Oil & Chemical Co., and Sterling Chemicals. Fina's price involves a 4c.-per-pound temporary voluntary allowance (TVA) off a 30c.-per-pound listing.

Arco Chemical Co. and Chevron Corporation have each posted a price of 27c. per pound. However, Amoco Chemicals Co. has announced a 25c.-per-pound price, and Huntsman Chemical Corporation says its price is 25c. per pound less a 2c.-per-pound TVA for an effective selling price of 23c. per pound.

Huntsman's posture in recent months of stating a price 1c. per pound or more below

the others "clouds the picture," according to a rival. However, Huntsman cites the company's policy of discounting substantially higher postings.

Producers report meeting competitive market conditions in November down to a base selling price level of 23c. to 24c. per pound.

Producers say that, from their point of view, the overriding factor in the market this month is the rise so far in feedstock benzene costs from 87c. to 98c. per gallon on a contract basis.

On the demand side, industry sources point out that strong growth in end market polystyrene has prompted a January 1 price initiative.

Supply-wise, according to a producer, "people are trying to squirrel some (styrene) away" because of numerous turnarounds scheduled for the early part of next year. Also, it is said that there is a seasonal need to send product to Northern terminals and consuming locations prior to the winter freeze.

Alcoa Closing

Continued from Page 5

Alcoa's hydro power and sale of nuclear power at the hydro rate "would have jeopardized the power authority's financial position."

A bright spot, Mr. Flynn notes, is that the largest Alcoa potline at the site will continue to operate with St. Lawrence-FDR hydropower. Use of the power saves the company about \$65 million, the authority claims. Alcoa receives 174,000 kilowatts of firm hydro power and 65,000 kilowatts of interruptible power.

The aluminum company contracted in 1981 for a long-term hydropower supply for the Massena plant to run through 2013 if the power authority's Federal license for the St. Lawrence-FDR project is renewed in 2003.

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OBITUARY

Sidney Gross

Sidney Gross, a longtime public relations specialist in the chemical process industries, died November 26 of lung cancer in New York. He was 63 years old.

Mr. Gross formed Gross & Associates, New York, a PR firm, in 1971. Its main client: Phillips Petroleum Company. He sold out his business to employees in 1983, and joined New York University's Department of Journalism and Mass Communications. He moved up to become chairman of the department, and, at the time of his death, he had been retired from NYU.

Mr. Gross earned bachelor's and law degrees from Ohio State University. He worked as a reporter and editor for the *Cleveland Press* and the *Cleveland bureau of the Associated Press* before moving to New York.

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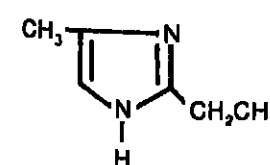
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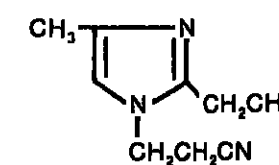
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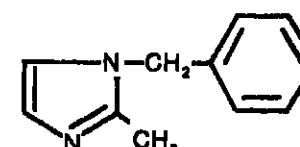
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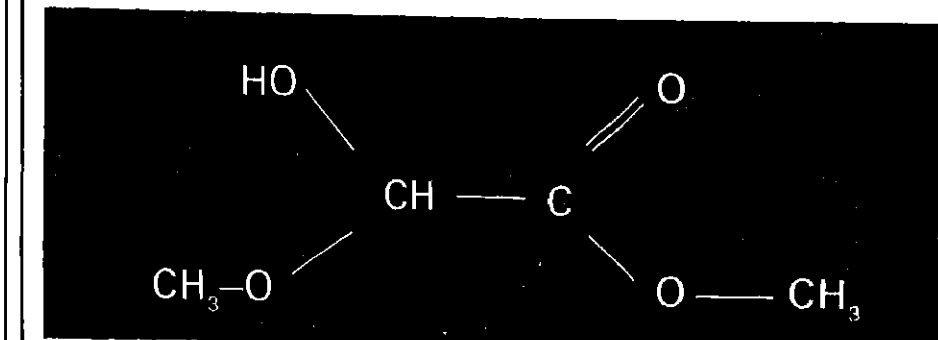
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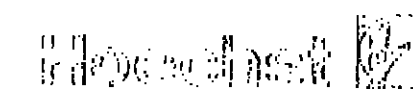
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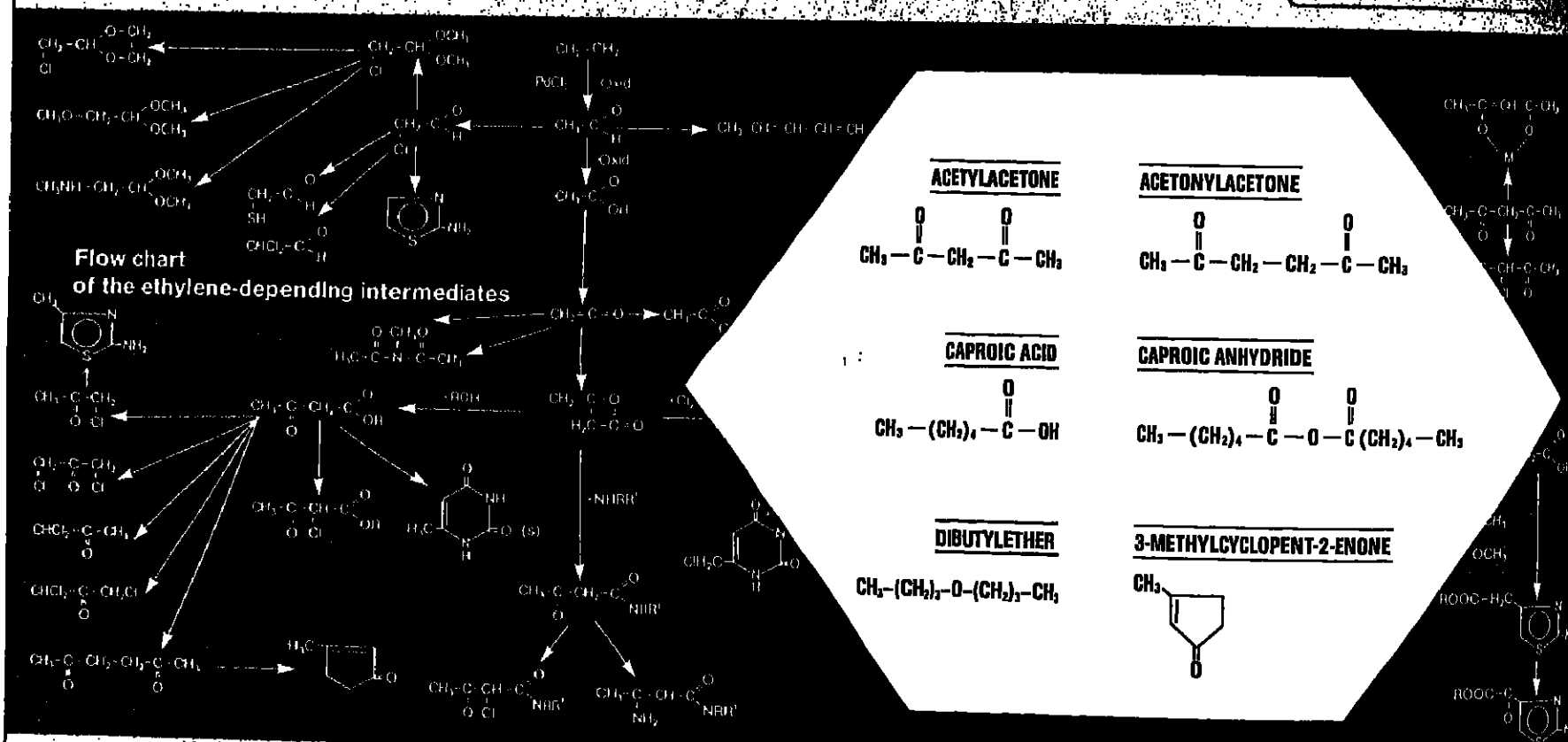
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Chemical Finance

Henley Plans Stock Repurchase

Henley Group Inc. says it plans to repurchase up to 10 million shares of its common stock on the open market or in negotiated transactions. The company has approximately 129 million common shares and common-share equivalents outstanding.

"We believe that Henley stock is substantially undervalued and does not adequately reflect the asset enhancement and improved operating results achieved during our first six months as a public company," Michael D. Dingman, chairman and chief executive officer, said.

Henley's book value per share on September 30 was \$30.24. The stock closed at \$23.55 last Thursday afternoon (December 4), before the stock repurchase program was announced.

Henley holds \$7 billion of consolidated and unconsolidated assets, with \$3.8 billion of shareholders' equity, \$1.1 billion of cash and equivalents and \$122 million of debt.

Henley says the buyback program is independent of the possible purchase of the 19.5 million shares of convertible preferred stock held by Allied-Signal Inc., which previously announced its intention to sell this stock.

Diamond Shamrock Deal Sought by Mesa

Diamond Shamrock Corporation, Dallas, Tex., has been informed that a partnership including T. Boone Pickens, chairman of Mesa Petroleum Corporation, plans to file documents with Securities & Exchange Commission covering a tender offer for 51 percent of Diamond Shamrock's shares in exchange for units in Mesa Limited Partnership. This would be followed by a merger.

Diamond Shamrock's management will review the offer with outside legal and investment banking advisers and then decide on what to recommend to the company's shareholders.

Montefibre SpA Makes Early Dividend Payment

Based on strong ten-month results and a favorable outlook, Montefibre SpA, the synthetic fibers subsidiary of Montedison SpA, of Italy, will make an early partial payment of 40 lire on the 1986 dividend for every common share and savings share of the company, effective December 16.

For the ten months ended October 31, Montefibre had net profits of \$22.07 million (\$9 billion lire).

Montedison also announced that in London, Credit Suisse First Boston has put together a consortium of credit institutions for a secondary offering of Montefibre's ordinary and savings shares in international markets.

Dexter Corp. To Acquire Rutland Plastics

Dexter Corporation, Windsor Locks, Conn.-based producer of specialty chemicals and materials, has agreed in principle to acquire for cash Rutland Plastics Incorporated of Charlotte, N.C., before the end of the year.

Rutland is a privately held, specialty formulator of polyvinyl chloride compounds and plastisols (specially formulated PVC dispersions). Compounded products include flexible and rigid PVC for specialty molding applications and yarn coatings. The company is said to be a leader in the field of plastisol screen-printing inks for textiles, and plastisols for industrial applications. Annual sales total \$20 million.

The acquisition is subject to various conditions, including negotiation of a definitive agreement and approval by directors of both companies.

American Hoechst Extends Tender Offer Date

American Hoechst Corporation, Somerville, N.J., has extended through December 15 the expiration date of the tender offer by the company's wholly owned subsidiary, Hostachem Corporation, for all of Celanese Corporation's outstanding shares of common stock, convertible preference stock and 7 percent second preferred stock.

American Hoechst said that the company is still in the process of supplying certain additional information requested by the Federal Trade Commission pursuant to the Hart-Scott-Rodino Antitrust Improvements Act.

Olin Acquires Continental Water Systems

Olin Corporation, Stamford, Conn., has acquired all the outstanding stock of Continental Water Systems Corporation, San Antonio, Tex. Olin has had an equity interest in this high-purity water company since February 1985. Continental will become part of Olin's Water Products & Services Division.

Alcan Selling Interest in Haley Industries

Alcan Aluminum Ltd., Montreal, Canada, has filed a notice with the Ontario Securities Commission and the Toronto Stock Exchange that the company intends to sell its 20.5 percent interest, or 1,065,900 shares, in Haley Industries Limited through the Toronto Stock Exchange. Haley manufactures specialty castings for the international aerospace industry. Alcan said it will deploy proceeds of the sale in other new business opportunities.

Financial Briefs

Phelps Dodge Corporation's board of directors has declared a dividend of \$1.25 per share on the \$5 convertible exchangeable preference shares for the period November 1 through January 31, payable February 1 to holders on January 15. Hercules Aerospace Company, a subsidiary of Hercules Incorporated, will acquire the Sperry Microwave & Support System operation of Unisys Corporation for \$42 million in cash. Aluminum Company of Canada (Alcan) will redeem on December 29 all of its outstanding 9 percent sinking fund debentures due March 1, 1995. Bio-Response, Inc., Hayward, Calif., and Ventrex Laboratories Inc., Portland, Maine, have agreed to cooperate in monoclonal antibodies for use in the fields of allergy, endocrinology, infectious disease and cancer. Swedlow Incorporated, Garden Grove, Calif., and Dow Corning Corporation, Midland, Mich., have formed a new corporation, SDC Coatings Inc., to use abrasion-resistant coating technology developed by the parent companies for automotive, aerospace and other applications. USX Corporation and Aristech Chemical Corporation announced that the public offering of 25,875,000 shares of Aristech common stock has been closed. Aristech was formerly the chemical division of USX. Amara Incorporated has completed the previously announced sale of its wholly-owned subsidiary, Amara Chemical Corporation, to FCS Energy, Inc. of Leesburg, Fla.

ALIPHATIC ORGANICS

Dow Takes Long

Continued from Page 7

million pounds annually over an unspecified period of time.

Industry observers note, however, that actual production of natural glycerine is limited by the demand for primary products such as soaps, fatty acids and fatty alcohols. It typically produced in a ratio of 1 pound of glycerine for every 9 pounds of prime product.

While admitting that this year's growth is something of an anomaly and that the future outlook is for a GNP-type increase in demand, Dow says its modernization program is part of a long-term commitment to "on-purpose" production of glycerine for the US market.

The modernization, while not a process change, includes the debottlenecking for 30 million pounds of additional capacity, as well as implementation of new equipment and systems which will enable the company to produce a minimum of 99.7 percent purity glycerine. Currently, the company makes 99.5 and 99.9 percent pure product.

Despite the strong market, glycerine producers recently announced price cuts amounting to 5 cents per pound. The decrease is attributed to high import levels and to excessive domestic natural glycerine inventories.

While inventories are currently high, Dow states that in recent years the glycerine industry has experienced several short supply periods. The company feels its "on-purpose" production process, in conjunction with the capacity expansion, should assure its customers constant availability during any future shortfalls.

NUYES — Virginia Chemicals has announced it is increasing off-list prices for diethylamine and n-octylamine, effective January 1, 1987.

Diethylamine is being raised 4c. per pound and n-octylamine is increasing by 6c. per pound. Both increases are attributed to higher raw material costs. Shipments are to Portsmouth, Va.

In addition, raw material costs for some amines have increased. Mild transient shortages have been experienced in some areas, the company says.

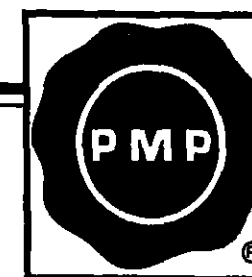
CAPROLACTAM — The other two US caprolactam producers have followed Dow's lead in advancing prices on January 1.

Allied-Signal Inc., which produces in Freeport, Tex., is meeting Nippro's increase of 1c. per pound, while BASF Corporation is increasing 3c. per pound and increasing its caprolactam accordingly, to 92c. per pound f.o.b.

ALIPHATIC ORGANIC OUTPUT: 3RD QTR. 1986

US INTERNATIONAL TRADE COMMISSION NUMBERS IN 1,000 LBS.

	3rd Qtr. 1986	9 months 1986	9 months 1985
Acetic acid	781,854	2,220,891	2,149,638
Alcohols	488,819	1,444,282	1,350,049
Aldehydes	533,781	1,607,585	1,705,072
Amines (basic grade)	280,268	882,783	643,793
Carbon tetrachloride	657,690	2,026,733	1,872,822
Chloroform	182,888	516,976	533,286
Chlorobenzene (mono, di and tri)	120,489	323,630	—
Chloroform (85 percent)	140,392	413,385	421,887
Cyclohexane	81,210	147,913	182,487
Cyclohexanone	8,351,049	24,488,013	22,827,389
Cyclohexyl glycol, monoethyl ether	1,187,083	3,806,540	3,390,308
Cyclohexyl glycol, monoethyl ether	85,183	229,674	220,101
Cyclohexyl glycol, monoethyl ether	1,620,599	4,441,638	4,302,676
Cyclohexyl glycol, monoethyl ether	183,783	428,681	388,546
Cyclohexyl glycol, monoethyl ether	125,189	414,798	371,672
Cyclohexyl glycol, monoethyl ether	1,385,331	4,417,884	4,307,171
Cyclohexyl glycol, monoethyl ether	317,888	885,198	799,273
Cyclohexyl glycol, monoethyl ether	1,852,169	5,020,875	4,548,689
Cyclohexyl glycol, monoethyl ether	97,382	310,679	280,970
Cyclohexyl glycol, monoethyl ether	129,889	408,721	382,718
Cyclohexyl glycol, monoethyl ether	183,888	447,882	412,954
Cyclohexyl glycol, monoethyl ether	98,800	305,889	285,009
Cyclohexyl glycol, monoethyl ether	28,508	87,570	347,110
Cyclohexyl glycol, monoethyl ether	4,048,723	11,577,059	8,878,404
Cyclohexyl glycol, monoethyl ether	386,730	1,148,019	1,485,689
Cyclohexyl glycol, monoethyl ether	181,785	448,488	401,636
Cyclohexyl glycol, monoethyl ether	170,848	488,488	488,448
Cyclohexyl glycol, monoethyl ether	811,817	1,722,031	1,583,350
Cyclohexyl glycol, monoethyl ether	2,264,820	6,374,072	5,781,498



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ALIPHATICS

75% will increase from 90c. per pound to 93c. per pound in truckload quantities, f.o.b. Willow Island, W. Va.

American Cyanamid says the new prices reflect higher manufacturing costs that include higher costs for the key alcohols used to produce the "Aerosol" surfactants, and increased costs related to environmental control.

The products are sulfosuccinate and sulfosuccinate-type surfactants that utilize various alcohols and maleic anhydride as key building blocks. American Cyanamid says they are used in a wide range of products and processes, including latexes, textiles, pesticides and cleaners, because of their wetting and emulsifying properties.



James E. Crutchfield

Avtex Revamp Establishes New Divisions

Avtex Fibers, Inc. is being reorganized into two operating divisions, each of the divisions headed by its own president. In addition, James E. Crutchfield, formerly executive vice-president, becomes president and chief operating officer of Avtex Fibers.

David A. Tounsiant, formerly vice-president of purchasing, has been named president of Avtex Fibers Front Royal, Inc., an operating company which manufactures rayon staple and continuous filament yarns, as well as polypropylene, specialty fibers and sodium sulfate.

Kenneth W. Baldwin, formerly vice-president of manufacturing for the filament division, has been named president of Avtex Fibers Lewistown, Inc., a manufacturer of flat filament polyester used in a variety of textile applications.

In making the announcements, John Gregg, chairman, emphasized that the reorganization completes a decentralization of Avtex Fibers, Inc. which began some eighteen months ago.

In its current state, Avtex has delegated its operating presidents responsibility for all phases of their operation, with the parent providing financial support in the form of a treasurer's function, Mr. Gregg says.

Howard E. Pollard, formerly vice-president and treasurer, has been named executive vice-president and chief financial officer of the company and will operate as chief financial officer for the various Avtex divisions.

Mr. Gregg points out that with import competition pressing more and more for a share of the US market, US companies will have to be able to respond quickly to the needs and requirements of customers. In his opinion, this can best be done by a minimum of corporate staff and major dedication at the operating level to providing customer satisfaction.

Baxter Travenol Plans Job Cutback

Baxter Travenol Laboratories will eliminate an estimated 5,000 jobs over the next five months as part of a program to streamline operations announced at the time of its merger with American Hospital Supply Co. About half of the reductions will be achieved through attrition, the company said last week.

The job reductions will mostly involve salaried management, professional, administrative and clerical positions. Costs associated with the program are covered by reserves established at the time of the merger.

EPA Charges

Continued from Page 5

the agency will be "as aggressive as necessary" in enforcing the Federal lead standard for motor fuel.

EPA says the joint business venture involved an "intricate scheme" that began with importing leaded-gasoline blendstock from various locations in Europe and ended with adding lead to produce leaded fuel for sale to retailers.

It says the product was purchased by a variety of major and independent gasoline marketers, and most of it was used in North-eastern states.

The agency contends that each party had a separate role in producing the fuel. According to EPA, Will Petroleum owned the product and was responsible for the overall operation. Triad arranged the purchase of the blendstock, established production quantities, helped supervise the blending and arranged the sale of the finished product.

ATI leased the blending facility and coordinated the actual blending operation. Du had formulated the blends and injected the lead into the blending tanks.

EPA says it first became suspicious of Will Petroleum while reviewing gasoline refiner and importer records. It says agency staffers noticed that the company was not filing proper reports. Two violation notices were sent to the company in March 1985. Will responded a few months later, but EPA continued to scrutinize the reports.

SEARCH WARRANT OBTAINED

In the interim, EPA says it received several anonymous tips that the company was violating the lead regulations. EPA obtained a search warrant for Will Petroleum headquarters in Houston last February and began uncovering the violations.

EPA says it was during the investigation, which spread through four states and reached an analysis of nearly three years of past importing and blending operations, that the agency learned that ATI was the lead coordinator for Will Petroleum and was filing the reports on the product.

However, EPA says ATI failed to report the amount of lead in the blendstock and separately reported twice the amount of fuel produced so that it appeared that Will Petroleum was in compliance with the Federal lead standards.

In addition to the alleged excess lead-use charges, the agency also cited Will Petroleum and ATI for violations of the lead-banking program. Under the program, gasoline producers that reduced lead below the allowable limits in 1985 are allowed to save bank those rights for use or sale in 1986 or 1987.

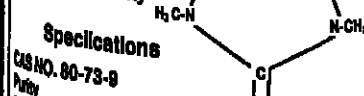
EPA charges that both Will Petroleum and ATI reported generating lead-banking rights during 1985 when, in reality, they generated a large deficit.

Under EPA's regulations, all leaded gasoline produced by a refiner in any given calendar quarter must conform to an average gram-per-gallon lead content established by the agency.

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FDA Gets Low Mark

Continued from Page 3

the most dangerous health risks," said Sen. Wilson.

Even if FDA's tests prove negative, the report says there is no guarantee the imported food is free of health-threatening chemicals since the tests are not designed to detect every pesticide.

GAO says when imported food is found by FDA to contain illegal pesticide residue, the agency is often unable to prevent the food from being distributed and consumed by the public. Many importers, GAO says, ignore FDA directives to hold shipments until they receive notice the commodities meet or fail to meet Federal health standards.

Of the shipments of food analyzed in Los Angeles in 1985, FDA determined 83 were contaminated with illegal pesticides. Of

these, 37 shipments were not received by FDA, 2 were partially recovered, 13 were fully recovered, and in 12 instances GAO could not determine what happened.

"When importers illegally distribute to the market contaminated foods," said Sen. Wilson, "they are rarely penalized. Consequently, there is little incentive for importers not to go ahead and distribute their contaminated shipments to domestic markets."

Sen. Wilson and Rep. Horton said they are working to devise legislation to strengthen and improve current monitoring and testing procedures for imported food.

Rep. Horton also said he plans to introduce a country-of-origin labeling bill for fresh fruits and vegetables early in the 100th Congress. He said his proposal would require that, for fresh fruits and produce, the country-of-origin be placed on the bin or container that now states the product and price.

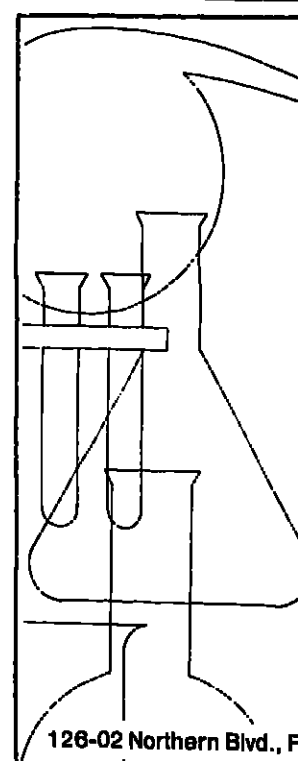
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Styrenics Engineering

Continued from Page 7

and beyond to meet passenger safety requirements. In addition to excellent energy absorption, the material is very lightweight, low cost, and conducive to many types of molding.

It also predicts substantial growth in use of foam in bumper cores, a technique perfected in Japan and making inroads here. "Arpro" polypropylene foam, a product manufactured by Arco JSP Company, is currently being used for this application on Nissans made in the US, with considerable interest in the bumper design being evidenced by other car producers.

Mr. Jefferson reports increased marketing efforts and use of Arco Chemical materials in Europe, primarily in the automotive sector. Says the company now supplies a significant portion of the European headliner market and expects to double market share in the next four to five years.

For European cars are currently using plastic instrument panels with substrates of "Arlan" resin, the result of development efforts initiated just two years ago, Mr. Jefferson says.

"Dytherm" resin and several of Arco's soluble foam materials were introduced in Europe this year and are undergoing market tests.

Boyle, manager, polystyrenics products and marketing, told the editors Arco has added three grades of "Arpro" polypropylene foam resin, a new cup grade bead, and a specially designed smaller bead for the "lost foam" foundry casting process.

All of the new materials have been developed to meet specific design and performance needs in their respective areas of application, Mr. Boyle says. He cites increased recognition of the cost/performance advantages of moldable foams as the reason for accelerated product research and growing market demand.

POLYOLEFIN FORMS OFFERED
Addition of the three "Arpro" grades brings to six the number of polyolefin foams offered by Arco under its joint venture arrangement with Japan Styrene Paper and Chemical Co. Ltd. and Arco Chemical Company.

According to Mr. Boyle, success of both the "Arlan" resins and "Arpak" polyethylene foam resin has spurred expansion of the JSP extrusion plant in Monaca a year sooner than anticipated. The expansion is currently under way with completion expected the second quarter of 1987.

The company says the new cup and extrusion grades are smaller size beads that produce light, smooth surfaces, for improved strength and better printability in paint, and the elimination of imperfections in range.

Other markets for the company's moldable foams have been growing steadily, Boyle said, triggering increased product development activities to meet demands of a wide range of applications.

He pointed out that the number of "Dyllite" moldable polystyrene grades has more than doubled to satisfy needs for a variety of products, controlled shrinkage rates and better appearance in the disposable packaging markets. Also, many new EPS products have been created to optimize the performance of new processing equipment coming from Europe.

Use of EPS in disposable packaging has shown strong growth and market penetration over the past three to four years, replacing glass-in-place and corrugated materials in many applications, according to Mr. Boyle. The growth was accomplished despite an increasing number of applications going off-shore, he notes.

The EPS material also has seen increased use in residential and commercial insulation applications, he says. In this area, Mr. Boyle noted his group will assume responsibility for marketing of the "Wallframe" building system, an alternative to standard masonry for residential and light commercial construction. The system was introduced by Building Products, a business divested by the company as part of its recent reorganization.

In other areas of application, Mr. Boyle noted continued growth in use of "Arco" solvent resin in reusable containers for material handling and for foam boards used for insulating.

In the general purpose polystyrene busi-

ness, the past year has been the best in the company's history, Mr. Boyle says. Sales exceeded the 8 percent increase exhibited by the industry.

Toxic Waste Unit Started in Illinois

Eticam Granite, Inc., a wastewater treatment and resource recovery firm, has begun construction of a facility for the processing of metal-bearing toxic waste in Granite City, Ill.

The company's corporate affiliates currently operate a similar facility in Warwick, R.I., and plan to begin operation of a second US treatment facility in January 1987 in Fernley, Nev.

Once completed, the \$9-million Granite City facility will treat one and one-half million gallons of toxic waste per month generated by metal finishing and electronics companies within a 250-mile radius of the plant.

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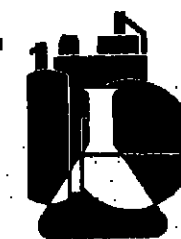
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DRUGS & FINE CHEMICALS

ITC to Vote This Week On Aspirin Anti-Dump Petition

International Trade Commission is scheduled to vote this week on a preliminary determination of the effect that Turkish imports are having on US aspirin producers, according to an ITC spokesman. The vote comes as the result of a formal complaint filed by Monsanto Company, charging Turkish exporters with unfair trade practices.

In late October of this year, Monsanto complained to the ITC that the government of Turkey was subsidizing Turkish aspirin producers, giving them an unfair advantage in the US market. Monsanto called for a countervailing duty to be imposed on Turkish imports, a duty which would be equal and offsetting to the Turkish subsidy.

At the same time, Monsanto filed an anti-dumping petition, saying that Turkish aspirin producers were selling material on the US market at less than fair value, and therefore hurting US producers.

These two actions are running concurrently with a third one filed by Monsanto — a generalized system of preferences action. This calls for the removal of Turkish aspirin from the list of imports enjoying duty-free status in the US.

Monsanto feels that this status is not necessary for Turkey to remain competitive with US producers. This complaint was filed in June, and was supported by Dow. Dow also supported the two more recent actions filed, according to a Dow spokesman.

While it is up to ITC to decide if pricing on Turkish imports is injuring domestic producers in the US market, it is clear from Bureau of Census figures that the volume of these imports has jumped appreciably in recent years. In the January-through-October 1986 period, 1.1 million pounds of Turkish aspirin was imported into the US. The figure for all of 1985 was less than this, totalling 957,000 pounds. Import volume for the year before was less than a quarter of that, just 216,000 pounds.

QUALITY QUESTIONED
China is the number two foreign seller of aspirin in the US. Chinese material has been kept from having too strong a position in the US market, though, due to questions about its quality, which one source calls "poor and varied."

The aspirin market in general has been steady, sources say. Prices were increased last July, and have for the most part retained those new levels. There have been reports of weakened pricing, but industry sources say that this has not occurred.

Competition from competing analgesics acetaminophen and ibuprofen has served to keep a lid on aspirin's growth, which one industry source sees at 2 to 4 percent this year over last year. Ibuprofen has grown "significantly," says a source. He cautions, though, that this is from a small base, and that ibuprofen still represents a small portion of the total analgesics market.

Meanwhile, Dow's new aspirin-salicylic acid facility is still going through sampling for product acceptability, according to a Dow spokesman. "For the past nine months," he says, "we've been going through fine-tuning to meet customer needs for consistent, quality material." Dow's old plant continues to run, and will be shut down when the new one is able to meet demand, he says. Both plants have a capacity of 12 million pounds, says the spokesman.

CHOLINE CHLORIDE — Nutrilite, Inc. will increase its prices effective January 1, making this the company's second choline chloride price increase this year. New prices are as follows: 30c. per pound for bulk 70 percent liquid in tanktrucks, up 2c. For 50 percent dry material, 36c. per pound for bulk orders in hopper cars or hopper trucks.

Bagged prices range from 37c. per pound to 40c. per pound, depending on quantity.

There is an additional charge of 4c. per pound for customers West of the Rockies.

A company spokesman refers to the increase as "minor," principally caused by increases in the raw materials used in the production of choline chloride.

He specifically singles out ethylene oxide, one of the precursors for the compound, which went up 2 cents in October.

In addition the source says stiller also

PRICES TRENDLINES

WEEK ENDING DEC. 5, 1986

CHANGES/UP

None

CHANGES/DOWN

None

DRUGS INDEX

The Drugs & Fine Chemicals index reflects the prices of 10 representative materials in this sector and the quantity of each produced in 1985.

Dec. 5, 1986	211.9
Nov. 28, 1986	211.9
Nov. 7, 1986	211.9
Dec. 6, 1985	211.9

Chemical Prices Start on Page 28

and regulations pertaining to worker safety mean higher insurance rates for the companies handling potentially dangerous products.

Following the Nutrilite lead, Choline Chemicals, the Canadian producer, is raising prices to 30c. per pound in bulk for 70 percent liquid solution.

In a similar move, Helm New York Chemical Corporation, a supplier of choline chloride, will raise prices to the same level effective January 1.

There is general confidence in the fact that the price increase will hold. Sources say choline chloride is "moving well," supported by the considerable expansion in the poultry industry. "There is a strong summer demand" says one source and adds, "People are just eating more of it these days."

Choline chloride's primary use is as a feed additive in the raising of livestock. The actual amounts vary depending on the type of animal, its use and its body weight.

Generally, the addition of choline chloride to animal feed reduces the incidence of certain types of diseases. In chickens it helps develop a healthy bone structure and helps with fat metabolism. About 1,000 milligrams of choline chloride per kilo diet is added to the feed material.

According to the latest International Trade Commission figures, choline chloride production in the US increased slightly over 1985, up from 37,381,000 pounds to 37,545,000 pounds in '86. For the third quarter the production figures show a slight drop to 10,965,000 pounds from 13,550,000 pounds for the preceding quarter.

However, industry sources maintain that this particular drop does not present a long-term downward development, but rather reflects a seasonal change allowing for the fact that during the hot summer months chickens tend to eat less. Many chicken farms are in the South where temperatures can easily rise to 95 degrees Fahrenheit.

The present increase is small in contrast to the earlier rise in June. Industry sources point out that, overall, prices have not caught up with their previous highs when choline chloride cost well over 30c. a pound.

NIACIN — Lonza, Inc. says that effective January 1, 1987 its list prices for niacin are

Continued on Page 24

Federal Court Dismisses Suit

A Federal court in Newark, N.J., last week dismissed a suit brought by a former Johnson & Johnson executive in Switzerland, who alleged that he was fired in 1985 because he refused to approve some \$12,000 in payments to a consultant to Switzerland's drug regulatory body. The court ruled that it had no jurisdiction in the case.

In his suit, Richard D'Agostino said he was dismissed as Swiss officials were considering approval of the company's "Imunox" treatment for arthritis and herpes. The drug approval application is still pending.

Johnson & Johnson said the consultant, Prof. Rudolf Preisig, has been on retainer since 1969, adding that "it is not unusual or improper in Switzerland to hire such an expert as a consultant."

Prof. Preisig is chairman of the department of clinical pharmacology at the University of Bern and also head of the College of Experts, which makes recommendations on drug approval applications.

Johnson & Johnson said the D'Agostino suit was filed after the company filed suit in Switzerland seeking to enjoin the former employee of J&J's Cilag AG subsidiary from disclosing company-related information.

According to Johnson & Johnson, Mr. D'Agostino had sought a monetary settlement related to his termination.

"Imunox" is on the market in Italy and Germany and the drug is in phase I studies in the US.

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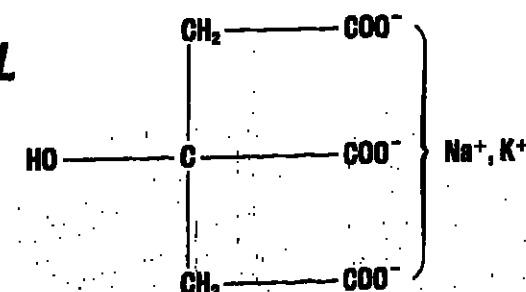
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DRUGS & FINE CHEMS

Continued from Page 22

mal nutrition grade will be as follows: For lots of 25 to 225 kilos, \$8.85; 250 to 975 kilos \$6.60; 1,000 to 4,975 kilos, \$6.35; and 5,000 kilos and up, \$6.10. All prices are on a delivered basis.

Industry sources support the move, maintaining that the hike represents an effort to "bring back prices to their earlier levels in the 80's." There is agreement that the niacin market has recovered from its earlier precipitous decline and is on the road to stability.

One factor reported as adding to the increased demand for niacin is a more sophisticated understanding of animal nutrition. Numerous research studies suggest that increased intake of niacin insures maximum animal performance such as speedier growth for broilers or more milk capacity for cows.

PHENYLEPHRINE HYDROCHLORIDE—Henley Company, Inc. will increase its price for phenylephrine hydrochloride, effective January 1.

Upjohn Licenses Drug

Upjohn Company has acquired exclusive rights to develop and market a new antibiotic complex in all countries except Japan. The new product, neoviridogrisein (NVC), was developed by Sanraku Inc. of Tokyo, a leading Japanese fermentation company. The product, which will be co-marketed in Japan by Upjohn and Sanraku, is being tested as a feed additive for cattle, chicken and swine, and has potential as a growth promoter product for farm animals, according to Upjohn.

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New prices are as follows: up to 24 kilos \$213 per kilo, up from \$210; 25 to 49 kilos \$203 per kilo up from \$200; 50 to 99 kilos \$198 per kilo, up from \$189; and 100 kilos and over, \$185.

The company, which imports phenylephrine hydrochloride from Germany, cites the falling exchange rate of the dollar against the German mark as the reason for the hike. The product is used for nasal decongestants.



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FDA Okays PVC

Continued from Page 5

ment, but has expressed concern about potential disposal problems.

There is evidence that dioxins are released into the air when PVC is incinerated, and a new flood of unrecyclable plastic would further strain the nation's overburdened waste dumps.

PVC's packaging applications are presently limited to non-food items such as engine oil and hardware products. But FDA says technological advances in the manufacture of PVC packaging have reduced the level of vinyl chloride to safe amounts.

A spokesman for the Society of the Plastics Industry says member companies are pleased by FDA's proposal "to reaffirm the safety of PVC food packaging."

He also said the increased use of PVC packaging for foods would lead to the replacement of other types of plastic materials, but would have only a minimal impact on glass and metal containers, except possibly for liquor bottles.

The SPI spokesman says the key to preventing dioxin contamination "is properly run incinerators."

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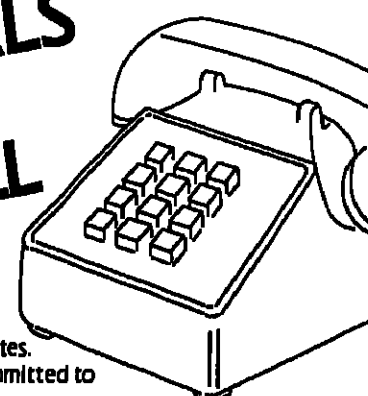
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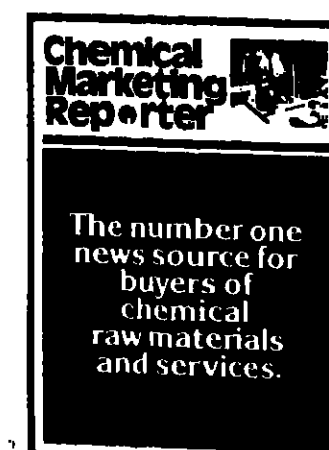
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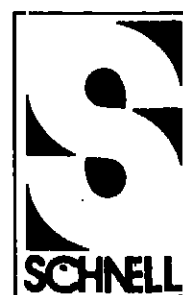
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Schering-Plough

Continued from Page 9

the company's target of \$25 million for the full year. Key's line of "Nitro-Dur" transdermal nitroglycerin patches had a nine-month sales increase of 22 percent.

• The company recently introduced Key's "K-Dur" into the potassium supplement market, and expects to market "Normazide" antihypertensive next year.

• FDA approval is expected shortly for "Proventil Repetabs," which Mr. Kogan says is "the only BID beta antagonist to be marketed in the US."

• Key's "Diasorb" anti-diarrheal is now being introduced, and the company expects FDA approval in 1987 for "QuinaDur," a reportedly unique sustained release antiarrhythmic.

• "Fibre trim with Calcium," an extension of the existing "Fibre Trim" line is being launched right now.

R. Lee Jenkins, executive vice-president for consumer operations, reported sharp increases in 1986 for the company's re-launched "Coppertone" sun-care line and an expansion of the "Dr. Scholl," foot-care business.

Mr. Jenkins noted that "Maybelline" eye cosmetic sales bounced back in October with a double-digit increase, and the pace is continuing through November and December.

Dr. J. Allan Waltz, president of the company's DNAX Research Institute, and Dr. Jonathan Spicehandler, vice-president of clinical research, reviewed progress in the company's biotechnology research and clinical research efforts, respectively.

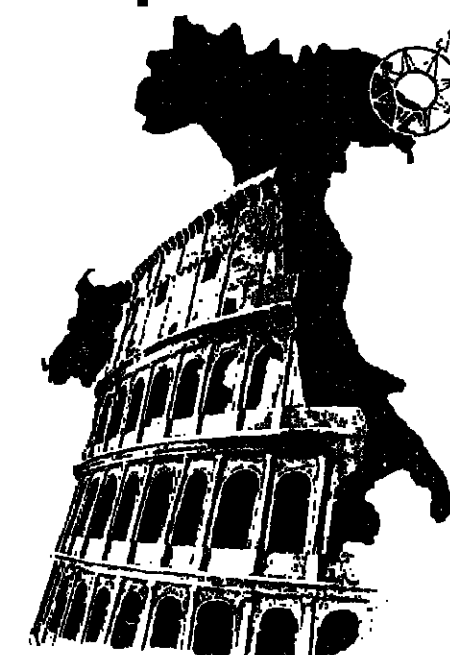
Robert Baldini, senior vice-president for Key Pharmaceuticals marketing and sales, and Jean-Pierre Garnier, senior vice-president for Schering over-the-counter products, reported, respectively, the successful integration of Key and Schering-Plough pharmaceutical operations, and the recent shift in the company's OTC business strategy toward enhanced market competitiveness.



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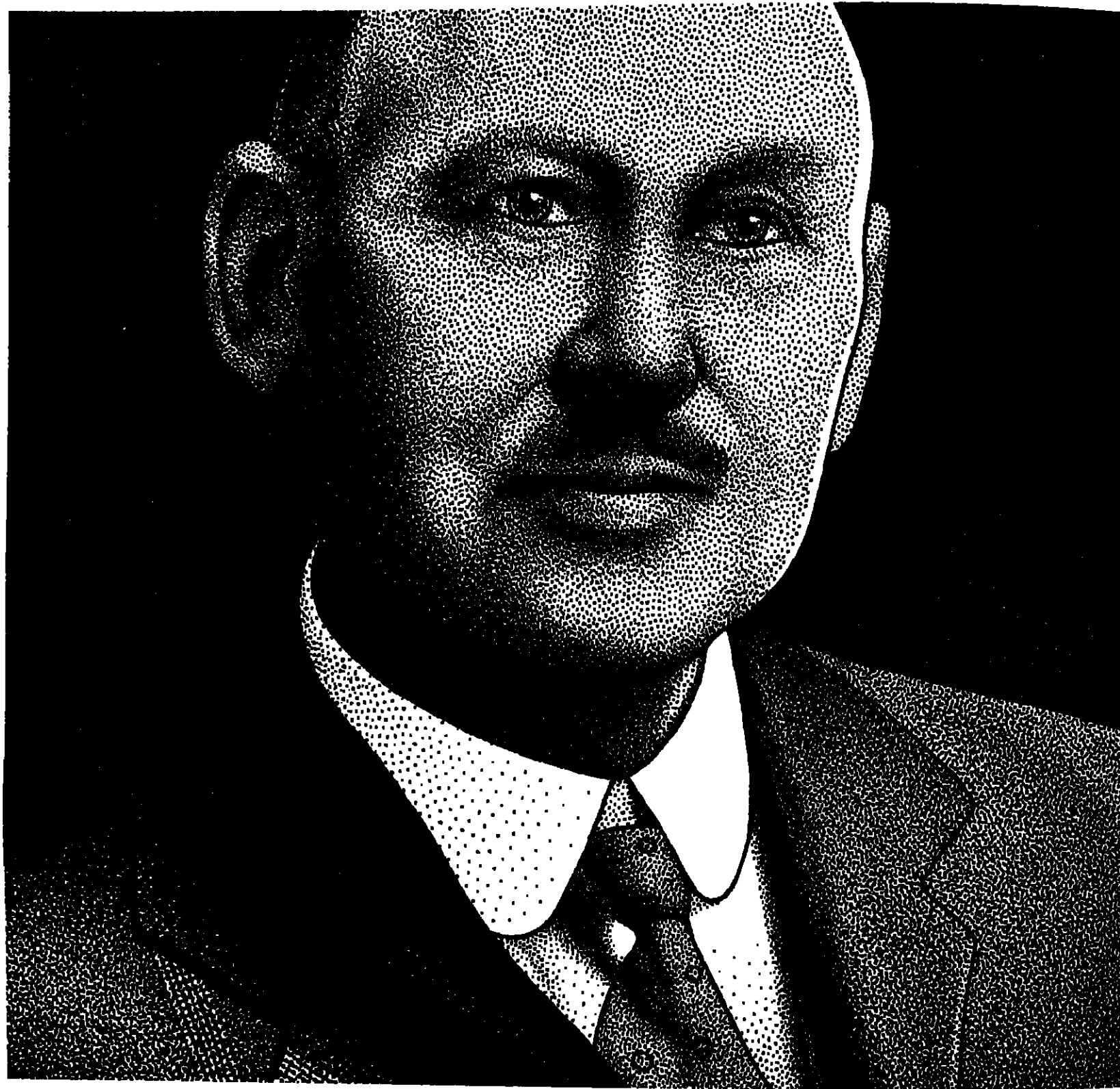
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HEAVY & AG CHEMICALS

Chloralkali Price Hike For 1987 Is Gaining Industry-wide Support

Major chloralkali producers are responding to chlorine and caustic soda price increases announced last month by the Chemical Company. Initial indications from industry observers are prices of both products should strengthen some in January, although chlorine will have an easier time of it.

Dow lead off with a \$10-per-ton increase in the off-list price of chlorine and a \$25-per-ton increase in the price of caustic soda solution, effective immediately for spot business and at terms allow for contract business (CMR, 11/17/86, pg. 43).

Occidental Chemical Corporation, Olin Corporation and, reportedly, PPG Industries have followed, but with the exception that they are asking only \$15 per ton hikes on caustic soda.

The increases are coming after October 1 commitments on caustic soda alone. Producers then asked for \$25 to \$30 per ton and up to \$10 per ton. Chlorine prices are said to have held relatively stable since that period.

Producers point to current industry operating rates as supporting an initiative. The September effective industry operating rate is 81.3 percent, as reported by the Chlorine Institute, is the highest in over three years. Bursadite reports a drop in October to an operating rate of 86.1 percent, although at least one producer is skeptical of this number, and feels October as well as November production was on par with September.

SUPPLIES SNUG
Supply and demand for chlorine are consequently said to be in good balance with supply slightly on the tight side. As one producer said, "any plant outage would certainly be felt."

No supporting a chlorine increase is a strong export market for vinyl, mainly in the form of VCM and EDC. For the first half of the year, for instance, VCM exports were about 295 million pounds ahead of last year's mark of 422 million pounds.

Most industry observers feel a chlorine increase of \$5 to \$10 per ton is likely, given present market conditions. One chlorine spokesman, "It's a sellers market today."

The caustic soda side of the equation is not as easy for chloralkali producers, however. Exports from Europe continue to affect the East Coast market and inventories, although some claim at the beginning of the year, are about where producers would like them.

One producer estimates that inventories have decreased from dangerously high January levels near 30 or 40 days of product demand to a current level closer to 15 or 18 days.

Caustic soda imports through October totaled 503,800 tons, according to Bureau of Census, up over 7 percent from the same period last year.

Exports, however, are also up, by about the same percentage, to over 1 million tons through October. Almost 70,000 tons of that went to Brazil. According to one source, demand there went up in the third quarter partly as a result of a price freeze that

spurred consumer spending. This source feels the shipments to Brazil helped lighten up the US market in the third quarter and helped US producers get domestic prices up.

Observer estimates of the chances of a caustic soda increase vary widely. Most say the Northeast market will be resistant due to imports and production in Syracuse and Ni-

PRICES TRENDLINES

WEEK ENDING DEC. 5, 1986

CHANGES/UP

None

CHANGES/DOWN

None

HEAVY & AG INDEX

The Heavy & Ag Chemicals index reflects the prices of 18 representative materials in this sector and the quantity of each produced in 1985.

Dec. 5, 1986	113.69
Nov. 28, 1986	113.69
Nov. 7, 1986	113.69
Dec. 6, 1985	113.69

Chemical Prices Start on Page 36

agara Falls. The Midwest is thought of as more willing to accept an increase, possibly as much as \$10 or \$15 per ton. The Southeast, including the Gulf Coast area, is disputed, with increase estimates ranging from nothing to \$10 per ton.

Some in the business have said that 1987 caustic soda prices will follow their classic cycle and drop off in the first half as chlorine demand from the vinyl industry picks up.

Others, however, note that the vinyl chloride monomer industry is operating close to capacity and may not be able to pick up production significantly. Those of this opinion feel slow but steady growth in caustic demand will actually improve the co-product balance and keep caustic prices firm through the first half of next year.

BASES & SALTS

LITHIUM CHEMICALS — Lithium Corporation of America notes that its price increase on lithium bromide, fluoride and chloride products (CMR, 12/1/86, pg. 32) is effective December 1, 1986, not December 15 as previously announced.

SODIUM PERBORATE — Degussa Corporation's Chemicals Division has announced an increase in the price of sodium perborate monohydrate, effective January 1, 1987.

The new price is \$61.50 per hundredweight, up from \$58.50, in truckload quantities (24,000 pound minimum) in 75 pound bags, f.o.b. stockpoint. Degussa maintains US stockpoints at East Brunswick, N.J., Chicago and Los Angeles. A \$3 per hundredweight transportation differential is added for shipments f.o.b. California stock.

A spokesman attributes the increase to higher production costs and to the weakening

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Ammonium nitrate	421,848	377,198	332,358
Ammonium nitrate/urea solutions	182,880	192,228	150,588
Other ammonium phosphates	102,514	73,083	149,418
Ammonium sulfate	172,777	184,580	243,581
Ammonium phosphate	784,296	714,735	778,881
Phosphoric acid	481,580	451,507	620,330
Sulfuric acid	818,008	705,754	618,588
Superphosphate, concentrated	3,253,047	2,877,128	3,375,157
Superphosphate, normal & enriched	230,009	205,628	247,825
Superphosphate and other phosphate fert.	41,250	35,448	18,152
Total	1,267,082	1,088,518	1,235,472
	484,804	472,508	452,938

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HEAVY CHEMICALS

In the value of the dollar. Degussa makes sodium perborate overseas, and claims to be the largest producer in the world. Also making the product overseas is Interlox. Du Pont makes sodium perborate tetrahydrate in the US.

Sodium perborate monohydrate releases hydrogen peroxide when dissolved in water, and is used as a bleaching agent in a variety of applications, including laundry products and denture cleansers.

Procter & Gamble is currently test marketing a detergent called "New Science Tide" which contains sodium perborate. If successful, and if sodium perborate is the bleaching agent decided on, perborate demand could increase significantly.

INDUSTRIAL ACIDS

SULFURIC ACID — Stauffer Chemical Company has announced an off-schedule price increase on sulfuric acid produced at its Hammond, Ind., facility. The increase is effective January 1, 1987, or as contracts permit.

Increases are as follows: 93.19 percent (66 degree Baume) sulfuric acid is increasing \$5 per net ton, not to exceed current schedule of \$84.50 per net ton; 98 to 100 percent acid is increasing \$5.35 per ton, not to exceed current schedule of \$79.25 per ton; all oleums are increasing \$5.35 per ton, 100 percent H₂SO₄ basis, not to exceed current schedule of \$82.25 per ton. Prices are freight equalized with nearest competitive producing point.

Late last week Essex Industrial Chemicals, Inc., a subsidiary of Essex Chemical Corporation, announced that effective December 1, 1986, or as contract terms will allow, the price of sulfuric acid and oleum will be increased by \$5.35 per ton, (100% basis).

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BASF Acquires

Continued from Page 3

operations on its "Conoco" and "Ice King" brands. BASF says the "Zerex" purchase makes the company the largest backward integrated antifreeze producer in the US, and the second largest overall seller of antifreeze. BASF expects to market over 40 million gallons of antifreeze next year, with "Zerex" contributing up to 10 million gallons of the total. Sales of this magnitude will reward the company's rated ethylene glycol supply at Gelsmar, La.

The company has 360-million pounds of EG capacity at Gelsmar, but not all of it is earmarked for the antifreeze market. As company sales of 45 million gallons, BASF's EG requirements will run as high as 50 million pounds for antifreeze production. However, the company has not secured a supply arrangement with Conoco. A BASF spokesman says the extra EG needed to come from its German parent, if possible, or from the open market.

BASF's expansion closely follows Old World's push to improve its market share in antifreeze business with the purchase of "Peak", "All Weather", and "Sub Zero" brands from Enron.

In addition to the labels, Old World, which produces ethylene glycol, has secured the year, 20-million-gallon-per-year EG start from National Distillers & Chemical Corporation, which bought Enron's chemical operations in September.

With the "Peak" purchase, Old World says it will become a 45-million-gallon-per-year seller of antifreeze and coolant. A figure several observers claim is 5 million to 10 million gallons high. In addition to "Peak", which Old World took over on December 1, the company adds "Full Force", "Advance", and private-label product.

Some say, Old World should be able to produce "Peak", because it has a far larger packaging network than did Enron. That only packaging facility was at Gelsmar, Ill., while Old World has 17 bottling plants around the US. The greater packaging network allows Old World to move antifreeze around the nation in bulk at a far better savings than shipping bottled product.

Some say the cost disadvantage posed by only one packing plant may have figured in Enron's decision to sell the business. At the time, the company said the sale was needed to help reduce the company's debt. Old World's 20-million-gallon-a-year supply contract will absorb most of the EG output from National Distillers' 200-million-pound-per-year Morris, Ill., plant.

Sources say Enron used this output to dominate the important Chicago-area antifreeze market, a position some sources say Rolling Meadows, Ill.-based Old World will assume.

Carbide's sale of its "Prestone" business to First Brands earlier this year has not removed Carbide from its dominant position in the ethylene glycol business, but some sources say it has shaken "Prestone's" lock on the market place.

Though still far-and-away the largest national brand name antifreeze (roughly 45-million gallons in sales), one source says the transition to First Brands has disrupted and reduced sales of "Prestone".

Nevertheless, Carbide remains the largest seller of EG to both the antifreeze market and to the polyester fiber market. The company sold its premium-priced "Prestone" business and other consumer products as part of a plan to reduce the massive debt it incurred fighting off a takeover by GAF.

Total sales of antifreeze topped 230 million gallons last year. In 1986, inventory carryover from 1985, coupled with milder weather early in the year is expected to reduce sales to about 215 million gallons, although producers report business has been extremely strong this Fall.

Next year, in the first full year of their expanded product lines, BASF and Old World will emerge as the second and third largest antifreeze sellers, respectively, in the US, according to a survey of producers.

Carbide, through its contractual commitments to First Brands, and its sales to private label and bulk buyers, will account for about 70 million gallons of antifreeze. BASF will follow with sales exceeding 40 million gallons, followed by Old World, which will market between 35 million and 40 million gallons.

Next comes Texaco, which has made a strong push in recent years and now sells at least 25 million gallons per year of antifreeze. Shell markets 15 million to 20 million gallons of material, and Conoco's sales will fall to 10 million to 15 million gallons after the "Zerex" sale.

After Conoco, Celanese, ICI, and Dow all sell 5 million to 10 million gallons of antifreeze to the market, although it was noted by one source that Celanese's output will probably be given over to American Hoechst's fiber operations following Hoechst's acquisition of Celanese.

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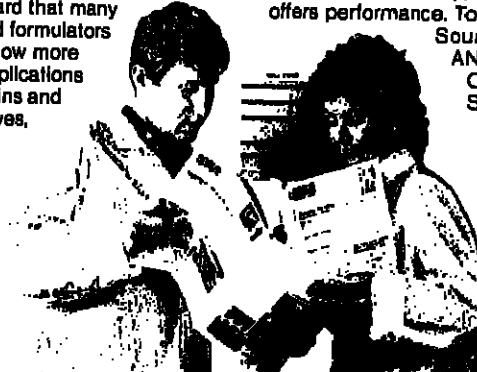
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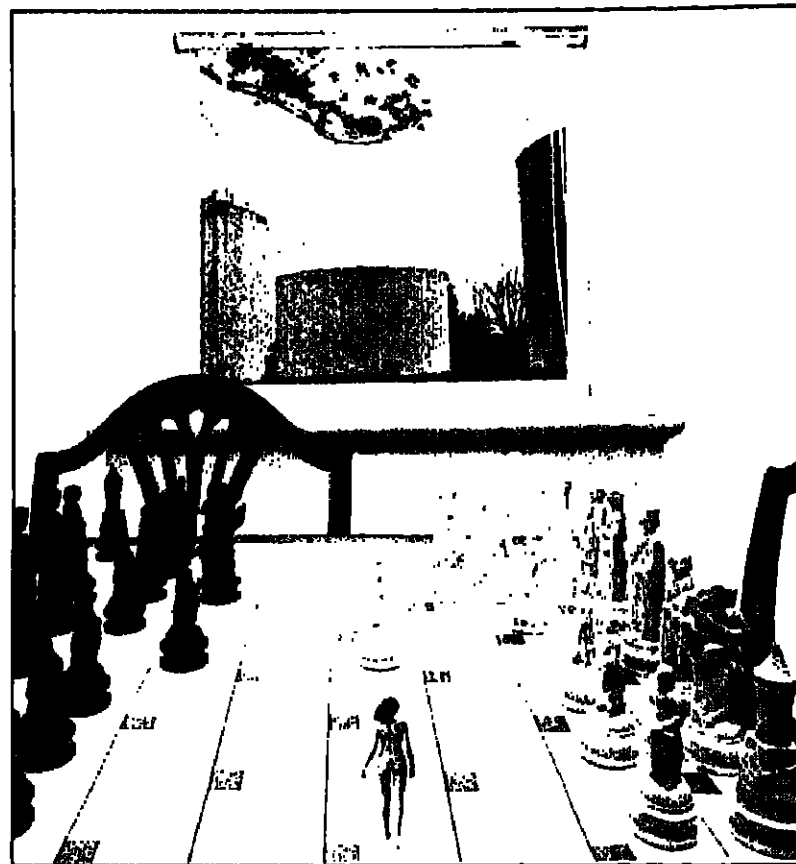
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CFC Cap Urged By WRI

Continued from Page 5

late 1970's, global CFC use has increased steadily since then. Known and suspected effects of ozone depletion include increased skin cancer, suppression of human immune systems, harm to aquatic systems and biological organisms, exacerbation of smog in some urban areas, degradation of some plastics and paints, and aggravation of the greenhouse effect.

With equipment design advances, according to the report, most car air conditioners could use fewer CFC's, at an insignificant additional consumer cost, compared to the total price; leakage, which represents a significant share of total CFC production, could be greatly reduced.

"Opportunities for reducing CFC emissions by recovering the compound and by cleaning the captured chemical for reuse are

substantial," the report says, especially for CFC's used in degreasing and cleaning.

Recapture and recovery of CFC's in the form of foams through carbon filtration, for example, can reduce operating losses by 50 percent; similar techniques can halve emissions of CFC's used in manufacturing rigid foams.

Some CFC formulations, however, present much less of a threat to the ozone layer. One commercially available option is CFC 22, which "degrades so rapidly in the atmosphere that it is only one-fifth as powerful as CFC 12 in depleting ozone." CFC 22 could replace CFC 12 in air conditioners and refrigerators, the report says.

In addition to less harmful CFC formulations, product substitutes for most CFC uses exist. These include hydrocarbons as propellants for aerosols.

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COATINGS & PLASTICS

PVC Producers

Continued from Page 9

pipe applications. Not only do they contend that PVC is environmentally safer than copper, which leaches amounts of metal and lead from solder in excess of EPA limits, they say the plastic shows lower sedimentation and higher corrosion resistance, requires no welding, costs less than metal pipe and can be installed in little more than half the time needed for copper.

California plumbers, citing the results of the Montgomery study, allege that PVC leaches hazardous levels of trichloroethylene and chloroform. They also claim that the organic solvent cement used to join the piping leaches unacceptable levels of MEK, cyclohexanone, THF and other organic compounds. Furthermore, they say, NIOSH has questioned the validity of the solvent cement labelling.

According to Mr. Gottesman, the Montgomery study contained many procedural inaccuracies. For example, phthalate esters, used only in flexible PVC production, were found in the leachate, suggesting that flexible tubing, rather than the rigid PVC used in pipe, was used in the test.

As far as the solvent cement issue is concerned, he says, organic levels dissipate after eight months; a thorough flushing of the pipe before use will eliminate the problem.

The California Housing and Community Development, pressured by plumbers union groups, contracted additional studies of PVC piping and recommended a complete Environmental Impact Report.

EIR STILL PENDING

Four years later, the report is still not finished. As Mr. Gottesman explains, the first consulting firm hired to conduct the study, bid the procedure. Now HCD wants to conduct the test in conjunction with the University of California.

Last year, the Vinyl Institute conducted a study in conjunction with McKesson Environmental Services, using a "worst case" plastic pipe system with CPVC, and contrasting leachate levels with those of a traditional copper pipe system.

Control of the project was turned over to the consultant, and results submitted this July showed no carcinogens leached from either the CPVC or the solvent cement, and only trace amounts of other organics, in the per-per-billion range.

In contrast, the metal system leached potentially hazardous amounts of copper and lead from solder. Other non-lead soldering materials such as arsenic were also found in the metal pipe leachate.

Meanwhile, California plumbers are determined to fight use of PVC and other plastics. While plastics producers maintain that plumbers really fear the effects PVC will have on their revenues, as ease of installation leads to increased "do-it-yourself" plumbing, the California Pipe Trades Council maintains that public health is its primary concern.

John Gorman, a representative for the group, questions the validity of the McKesson test, citing "lack of forthrightness" on the part of plastics producers in previous tests.

In Leonardini versus Shell Oil Company, a case which came to trial in Sacramento last year, he says, it was found that fittings used to join polybutylene pipes were leaching triamine, formaldehyde and other carcinogens. While the plumbing pipe controversy continues in California and the state reviews the

McKesson tests, other states have fully approved its use in water pipe.

Some controversy continues to surround PVC's use in electrical cable. The NEC had restricted its use to buildings of three stories and under. Recently, this restriction was removed, a major victory for PVC producers.

The National Institute of Building Sciences has been working to develop new material testing methods which may potentially help PVC, shifting the focus away from toxicity alone to factors equally important in a fire: flame spread and ignitability.

Focusing on toxicity alone is too simplistic an approach, says Gene Brewer, president of NIBS. Although toxicity levels must be con-

PRICES TRENDLINES

WEEK ENDING DEC. 5, 1986

CHANGES/UP

None

CHANGES/DOWN

None

COATINGS INDEX

The Coatings & Plastics Index reflects the prices of 13 representative materials in this sector and the quantity of each produced in 1985.

Dec. 5, 1986	306.4
Nov. 28, 1986	306.4
Dec. 8, 1986	306.4
Dec. 6, 1985	306.4

Chemical Prices Start on Page 3a

sidered, he says, materials considered toxic continue to perform best in a fire.

Ruling out potential toxicity destroys other properties which may be equally important in saving lives. Currently, Mr. Brewer says, the Institute is developing one standard evaluation procedure to be used by architects, contractors and interior designers alike.

The National Center for Fire Research and the National Bureau of Standards are close to completing a fire hazard computer model, evaluating not only toxicity but flame spread and other performance factors.

This new approach, says Mr. Gottesman, can only have a positive impact on the vinyl market. Toxicity problems are not being ignored, however. NIBS's Brewer says that material mixes are being evaluated to lower toxicity levels. Several polyolefin producers are also working on developing non-halogenated wire technology.

Cross-linked polyethylene, which is currently being used with ATH in non-halogenated electric cable, specified by the US Navy, has not yet had any sizeable impact on the market.

Although Union Carbide Corporation has developed a line of polyethylene products which, it hopes, may eventually replace PVC in construction, Mr. Gottesman says that it has not yet penetrated the commercial building wire and cable market.

Another remaining snag concerning PVC use in food packaging and bottles has been removed, as the FDA has approved the plastic for food packaging applications (see p. 5). In 1974, vinyl producers first ran into problems when the FDA ruled that the plastic could not be used in liquor bottles. Once new processing techniques were developed, which remove all traces of VCM from food-grade packaging resin, vinyl makers reapplied to FDA for packaging approval.

The comment period of the evaluation process ended in June, but, subsequently, environmental concerns were raised alleging that incineration of PVC would lead to increased dioxin emission levels.

Mr. Gottesman reports that several recent tests have shown that incinerator operating procedure, rather than PVC controls dioxin emission.

Municipal garbage, he says, already emits

Continued on Page 53



FLAVOR AND FRAGRANCE MATERIALS

Benzyl Acetate
Benzyl Alcohol
Cinnamates
Cinnamic Acid
Cinnamic Alcohol
Cinnamic Aldehyde
Nerolin
(2-Ethoxynaphthalene)
Yara-Yara
(2-Methoxynaphthalene)

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December 8, 1986

CHEMICAL MARKETING REPORTER

35

An Index of weekly chemical market reports is on the back cover.

Acids silic. dms.	ldo	24.00	27.00	Aluminum acetate, basic, dms. i.c.l.		
Acetic acid, 99%	ldo	.37		works	lb.	3.25
Pices c. higher in West.				Aluminum chloride, solid, 99.00	lb.	100
Acetaminophen (see N-Acetyl-p-aminophenol)				800 lb. dms. c.l. li. works.		
Acenaphth. black, dms. i.l. f.o.b.				fr. liquid	lb.	53
Acenaphth. tech. tanks, dms. i.l.	1.29			bulk, same basis	lb.	48
Acetyl acid, tech. tanks, dms. i.l.	.25			semi-bulk bags, same basis	lb.	52
Acetyl-naphthylidene, tanks, dms. i.l.	.43 1/2			works	lb.	32
Acetylacetylhydride prices c. higher in West.				tanks, works	100 ba.	15.00
Acetylacetone, dms. i.l.	1.29			rot. dms. c.l. works	100 ba.	12.00
Acetoacetal-anisilidide, dms., i.l.				non-ret. dms., same basis	100 ba.	20.00
dms. ....	.270			Aluminum formalate, solid, 99%		
Acetoacet-chloroformate, dms. i.l.				Al ₂ O ₃ li. works	lb.	55
dms.	2.85			Aluminum hydrate (see Alumina, hydrated)		
Acetoacet-o-toluidide, dms. i.l.				Aluminum hydrosulfide, acid, NF	75, 25 dms. i.l. works	2.75 3.50
dms.	1.58			Aluminum metal, 99 1/2% or more, 50-lb.		
Acetoacet-n-xylylidide, dms. i.l.				pigs., 30,000-lb. lots, frr.		
dms.	3.33			alt.		
Acetone, tanks, dms. i.l.	.25			Aluminum oxide (see Alumina, calcined)		
dms. Zone 2 (Calif.) ....	.27			Aluminum paste, feeding grade,		
dms. Zone 3 (W. of Rockies exclud-				std. lining, 2,400 lb. lots,		
ing Calif.) ....	.27			alt.	lb.	1.40
Acetonitrile, tanks, frr. alt.	.53	54 1/2		linig, extra-fine, same basis	lb.	1.99 2.14
Acetophenone (see Phenacetone)				Aluminum phenoxide/salts, purif., 100-		
Acetophenone, tech., tanks, f.o.b.				ldo dms., i.l.	lb.	6.48
works ....	.78	.85		Aluminum powder, feeding grade, std.		
perfluoro grade, excls. cns.	2.15			lang, 2,400 lb. lots, frr.	lb.	3.17
N-Acetyl-p-aminophenol, c.l. i.l.				extra fine, lining, same basis	lb.	4.04
works	5.95	6.84		Aluminum stearate, bgs., c.l.	lb.	1.25 1.30
Acetylene black, 12% b. bgs. c.l. i.l.				Aluminum sulfate, coml. grad., 100 lb.		
compressed, 12% b. bgs. c.l. i.l.				bgs. c.l. works		
extra ....	.96			basic 17% Al ₂ O ₃ East and Gulf		
100%, 25-lb. bgs. same basis				Coasts	ton	205.00
....	.85 1/2			West Coast	ton	220.80
Acetylene tetrabromide, tanks, f.o.b.				iq. tanks, N.E. same basis	ton	145.00
works ....	.97			iron-free, dry, bgs., c.l. same		
Acetylene oxide, USP (see Acetone)				basis	ton	300.00
Acetylthiuril citrate, bulk, f.o.b.				iq. tanks, same basis	ton	225.00
works	1.26			Aluminum sulfate, USP tanks, frr.	lb.	285.00
Acetylthiuril citrate, bulk, f.o.b.				Arminoacetic acid, USP, dms., 20,000		
works	2.06			lb., f.o.b. works	lb.	2.12
Acetoin, tech. tanks, works ....	.82			tech. i.l., same basis	lb.	1.88
Acrylonitrile, solid, i.l. works	1.00			p-Aminobenzoic acid, 1,000 lbs. frr.		
soft, 100% basic tanks, works ....	.74	.77		more, dms., f.o.b. works	ldo	8.60 10.10
Acrylic acid, glacial, reg. tanks				2-Amino-4-chlorophenol dry and ald.		
works ....	.87			14,000 lbs. or more, frr. grad.	lb.	6.79
tech. tanks, frr. alt.	.80			Aminoethyl allantoate, tanks, frr.		
Acrylonitrile-butadiene styrene	.39 1/2	.45 1/2		colcol	lb.	1.33 1/2
high-impact, net. i.l. dms.				N-Aminoethyl piperazine, tanks, f.o.b.		
dms.	1.09	1.12		in colcol	lb.	1.05
medium-impact, net., same basis	1.05	1.08		2-Amino-2-ethyl-1-propanol		
low-impact, net., same basis	1.05	1.08		net. i.l. f.o.b. works	lb.	1.82

NOTE: A unit-ton is 1 percent of 2,000 pounds of the basic constituent or other standard by the Chemical Market Reporter. The percentage figure of the basic constituent multiplied by the unit-ton price shown in Chemical Market Reporter gives the price of 2,000 pounds of the material.

[illegible]

Borax, tech., gran., decahydrate, 93% ton	237.00	-
ton buik, c.i., works	192.00	-
tech., pentahydrate, gran. 99% bgs., c.i., works	265.00	-
ton buik, c.i., works	220.00	-
Borax, NF (US Chemical Borate)	250.00	-
Boric acid, tech., gran. 98% bgs., c.i., works	614.00	-
ton buik, c.i., works	569.00	-
Boron trichloride, CP, 1,800-lb. cys. works	3.80	-
Boron trifluoride, 80-lb. cys. 1,400-lb. works	4.03	-
buik, same basis	3.47	-
Boron trifluoride, etherate, 600-lb. works	2.35	-
phenolate, 500-lb. cys. 1,400-lb. basis	1.85	-
Bromine, dms. 1-l. works	.87	-
buik, 45,000-lb. min. works	.33	.34V
quic. 1-l. works	.76	-
Bromine divd., prices for dms. and buik shipped W. of Rock- land, 1-cu. per-lb. higher. Buik 1-l. prices 1c. to 2 1/2c. per-lb. higher for 30,000-lb. min. and 4c. to 5 1/2c. per-lb. higher for 15,000-lb. min.		
Bromochloroacetic, dms., c.i., 1-o.b. Midland	1.12	-
Butadiene, tanks, 1-o.b.	1.12%	.13
1,4-Butanediol, tanks, 1-o.b., frt. equed.	.80	-
dms., same basis	.88	-
Butene, c.i., tanks, 1-o.b.	.26	.28
n-Butyl acetate, sym., tanks, frt. afd.	.52%	-
n-Butyl acetate, tanks, frt. afd. E.	.69	-
n-Butyl alcohol, sym., ferment., tanks, frt. afd.	.34	-
sec-Butyl alcohol, sym., tanks, divd. E.	.395	-
tert-Butyl alcohol, sym., tanks, divd. E.	.70	-
Butyl aldehyde (see Butyraldehyde)		
Butyl benzyl phthalate, tanks, frt. afd.	.59	-
Butyl chloride, tanks, works	.98	1.00
Butyl cyclohexyl phthalate, tanks, divd.	.74	-
n-Butyl dms., c.i., 1-l. works	1.85	-
Butyl isocetyl phthalate, tanks, divd.	.35	-
n-Butyl tectate, tanks, 1-o.b. works	1.58	-
n-Butyllithium, 15% soln., 1,000-lb. lots of more, cys., 100% basis, divd.	15.45	-
tanks, 3,000-lb. min., 100% basis, divd.	14.75	-
Butyl methacrylate, tanks, frt. equed.	.88	-
Butyl octyl phthalate, tanks, divd. E.	.40	.42
Butyl oleate, distl., dms., c.i.	.70	.82
tanks	.60	.75
Butyl phenyl phthalate, tanks, divd. E.	.70	-
Butyl phthalate (see Dibutyl phthalate)		
Butyl stearate cosmetic, dms., 77 dms. or more	.91	.97
Butyl stearate tech., 1-l.	.82	-
Butyl stearate tech., 1-l.	.80	.62
tanks	.55	.58
Butylamine (see Mono-, Di- and Tributylamine)		
tert-Butylphenol, tanks, c.i., 1-l., 1-l. works	1.31	-
tanks, same basis	1.37	-
Butylenedihydroxyisole, food grade, dms., divd.	8.80	8.85
Butylenedihydroxyisole, food, feed grades, c.i., 1-l. bgs., divd. 1-l. tech., bgs., c.i., 1-l. divd.	1.27	1.30
1,3-Butyleneglycol, tanks, divd.	.72	-
Butyraldehyde, tanks, divd.	.28%	.38
Butyric acid, tanks, frt. afd.	.44%	-
Butyric ether (see Ethyl butyrate)		
Butyrolactone, tanks, 1-o.b. plant	1.20	-
n-Butyrolonitrile, dms., c.i., divd.	.93	-
tanks	.54	-
Cadmium chloride, purif. cryst., 100- lb. dms. 1-l. works	3.73	-

Calcium carbide, std., generator size, bulk, c.i., f.o.b., works, 1 ton	402.00	-
Calcium carbonate, pulverized, 325-mesh, bgs., bulk, f.o.b. works, 54 1/2 solids, same basis	46.00	-
72% solids, same basis	97.00	100.00
quickslime, gran. ind., bulk, works, 1 ton	100.93	-
Calcium carbonate, coated, bgs., c.i., works, 1 lb.	.0630	.18
Calcium carbonate, precip. d.i., 1 ton	385.00	445.00
Calcium carbonate precip. medium, bgs., c.i., works, 1 ton	110.00	150.00
precip. dense, bgs., c.i., surface treated, bgs., c.i., works, 1 ton	265.00	-
ultrafine, U.S.P. bgs., c.i., works, 1 ton	217.00	225.00
Calcium fluoride, conc., reg. grade, 70-80%, flake, bulk, c.i., works, 100-lb. bgs., c.i. same basis	153.00	-
anhyd., 94-97%, flake or pellet, bulk, c.i., same basis	217.00	-
80-lb. bgs., c.i., same basis	279.00	-
brining grade, 80-lb. same	285.00	-
Calcium chloride, liq., 100 percent basis, 1-l. barrel	99.75	-
45% same basis	118.00	-
Calcium chloride, USP, gran., 225-lb. dms., 1-l. fr. equal.	.90	-
Calcium citrate, purif., 200-lb. dms., 1,000 lbs. or more, f.o.b. works, 1 ton	3.82	-
Calcium cyanamide, indust., anhyd. dms., works, 1 ton	400.00	450.00
Calcium gluconate, USP powder, 1-l. lb. 1,000-lb. lots, work	1.80	-
Calcium hydride, lump, dms., 25-100-lb. lots, work	10.50	13.25
Calcium hypophosphite, 100-lbs. rudds ships 1 ft. E. of Rockles, 100 lbs.	92.40	-
Calcium hypophosphite, dms., bulk, 500 kilos or more	13.75	14.50
Calcium iodate, FCC dms., f.o.b. works, 1 lb.	5.50	-
Calcium iodide, 50-kilo dms., f.o.b. works, 1 kilo	23.85	25.85
Calcium lactate, NF, powder, pentahydrate, 25, 24.00 lbs. or more, f.o.b. works, 1 ton	2.00	-
NF, gran., trihydrate, same basis, lb. special gran., dried grade, same basis	2.10	-
Calcium naphenate, liq., 4% Ca., c.i., 1 to 2 plant, E. of Rockles	2.80	-
d-Calcium pantothenate, USP, 100-500-kilo lots	12.50	-
Calcium pantothenate, feed grade, f.o.b. frt. 250 kilos or more	8.00	8.50
d-Calcium pantothenate, calcium chloride complex, feed grade, 160 grams per lb., f.o.b. frt. 250 kilos or more	2.75	-
Calcium phosphate, basic, feed grade, 18 1/2% P, bulk, c.i., f.o.b. works, 1 ton	228.00	-
Calcium phosphate, dibasic, dihydrate, USP, bgs., c.i., 1-l. works, frt. equal	62.50	-
anhyd., USP, same basis	71.75	-
densities grade, same basis	49.90	-
Calcium phosphate, monobasic, monohydrate, feed grade, bgs., c.i., 1-l. works, frt. equal	50.50	-
anhyd., NF, same basis	54.95	-
tribasic, feed grade, bgs., c.i., frt. equal	62.50	-
Calcium propionate, dms., 2,000 lbs. or more f.o.b. frt. 250 lbs.	.50	-
Calcium stearate, hydrated, bgs., c.i., works, 1 lb.	.07	-
Calcium silicate, paint grade (see Volastonite)	-	-
Colmat, NF, mild powd., 100-lb. dms.	8.50	-

WEEK ENDING DEC 5, 1986	
Carbon black, low structure, bulk, c.i. works.....	240
bags, c.i. works.....	270
Intermediate-super-abrasion (ISAF).....	26
super-abrasion (SAF), bulk, c.i. works.....	28
bags, c.i. works.....	31
semi-reinforcing (SRF), bulk, c.i. works.....	4050
bags, c.i. works.....	210
Carbon black, thermal, medium, bags, c.i. works.....	240
Carbon black, thermal, medium, bags, c.i. works.....	30
Carbon black, c.i. works.....	32
Carbon black, c.i. bags, f.o.b. Gulf refineries.....	10.50
f.o.b. W. coast refineries.....	10.50
Carbon disulfide, c.i. f.o.b. works.....	420.00
Carbon tetrachloride, CP, consumers, dms., c.i. frt. adl.....	36
tech, dms., c.i. t.l. frt. adl.....	31
tank transport (min. 4,000 gals.) frt. adl.....	24
Carboxymethyl cellulose (see CMC)	
Cardamom, NF, lots.....	60.00
Cardamoms, disci, Guatemala.....	2.80
green, Guatemala, bags.....	5.75
Carmine No. 40, NF, bulk, 100-lb. lots or more, divd.....	135.00
Carnauba wax, Parahyba, No. 1, yellow, bags, ton lots.....	1.95
Castra, No. 1, yellow, bags, ton lots.....	1.75
North Country No. 2, refined, bags, ton lots.....	1.55
Carnauba wax, North Country No. 3, centrifuged, bags, ton lots.....	1.10
North Country No. 1, refined, bags, ton lots.....	1.30
Powdered carnauba wax, 20 to 100 mesh, 20c per lb. higher.....	
b-Carotene, in vegetable oil, acid suspension, 400,000 A units per gram, 33 lbs. or more.....	32.75
b-Carotene, liq. in vegetable oil, 400,000 A units per gram, 33 lbs. or more.....	40.75
b-Carotene, dry, beads, 100, 167,000 A units per gram 50-lb. cns.....	26.85
c-Carvone, 25-lb. dms., syn.....	18.00
Carvone, 50-lb. dms., syn.....	48.00
Cascara sagrada, bag.....	1.45
Casem, imp., acid-precip., grad., 30-mesh, Australian, edible, same basis, c.i.l.....	1.365
Australian, indust., same basis, c.i.l.....	
Cassella acid, 303 mol. wt., dms., lrt., alid., 100% basis.....	3.70
Cassia, Konigii "A" bags.....	108
"B" bags.....	9.95
Cassioia of China, dms.....	18.50
Cestor oil, raw, No. 1, Braz. tanks.....	32
USP 5-B dms.....	74
reid dcel, 5-8 dms.....	78
blow, 5-8 dms.....	75
dehydrated, bodied, tanks.....	74
dehydrated, unbodied, tanks.....	65
Cestor oil, acids dehydrated, dms., ricinoleic acid.....	1.80
Cestor pomace, bags, container load, f.o.b. Miami, Fla.....	154.00
Cestoreum, net, 45-lb.....	18.00
eyes.....	11.00
Catchol, CP, cns, 40-lb. dms., 50-239 dms., f.o.b.....	7.93
tech, bags, l.t., same basis.....	3.71

260
260
-
-
-
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-
.30 1/2
.34 1/2
2.50
2.50
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1.20
1.00
-
.34
-
-
-
.83
-
35.00
-
-

acidic acid, resin grade, bulk, hopper	57	1.01
cars, rt. equald.	lb.	
bags, 11, c1, rt. equald.	lb.	59
Agr USR, pcmd, 80 to 100 mesh,	dms.	9.50
Alcohol wks. C-8 to C-10, tanks, f.o.b.	work.	lb.
Alc.	lb.	38
C-12 to C-13, tanks, dnd.	lb.	57
C-14 to C-15, tanks, dnd.	lb.	57
C-16 to C-18, tanks, dnd.	lb.	40
Aldehyde, C-6, dms.	lb.	4.10
C-7, dms.	lb.	1.95
C-8, dms.	lb.	4.30
C-10 dms.	lb.	4.30
Algin (see Sodium alginate)	lb.	5.35
Alkyl blue, dry, flushed, 150-lb. dms.	dnd.	lb.
Alkal blue prices 1c. higher W. of		3.72
Rockies.	lb.	3.83
Allspice Guatemala / Honduran,		
bags.	lb.	32
Jamaican, bgs.	lb.	1.05
Allyl alcohol, tanks, f.o.b. Bayport,		
Tec.	lb.	90
Allyl bromide, 500-lb. dms. f.o.b. or		
more, works.	lb.	5.50
Allyl caproate, 25-lb. dms.	lb.	3.90
Allyl chlorides, tanks, f.o.b. works.	lb.	85
Allyl sulfonates, bobs.	lb.	5.40
Almond oil, bitter (see Benzaldehyde).		
Almond Oil, nat. bitter, NF 11 p.p.		
bols.	lb.	3.50
sweet.	lb.	1.24
Aloe, Choc. ca.	lb.	2.00
powd., c1.	lb.	2.25
Curacao, kgs.	lb.	2.80
powd, kgs.	lb.	3.00
Alolin, NF, dms.	lb.	6.00
Alolin, ammonium, tech. gran, bgs.	lb.	35.00
11, works.	lb.	55.00
FCC powd., fiber dms, works/100lbs.	lb.	35.00
Alon, potassium, tech. gran bgs, c1,	lb.	60.00
11, works.	lb.	100 lbs.
FCC powd., fiber dms., works.	lb.	35.00
100 lbs.	lb.	60.00

Abbreviations

Chemical Marketplace

E/Eat	Incl./included	O-/ortho	sec./seconds
e./end point	indust./industrial	ord./ordinary	sp.g./specific gravity
eq./equalized	lbs./kgs	oz./ounce	ship./shipment
exp./expressed		P-/phosphorus	soln./solution
extr./extracted		P-/para	std./standard
		Pao./Pacitic	syn./synthetic
F./Fahrenheit		p./pistol	
f.a.s./free alongside	l./leavo	ph./phosph	tanks./railroad tankcar
temank./fermentation	lb./pound	phos./phosphate	tech./technical
f.t.a./free into cargo	l.c./less carload	photo./photographic	ten./tenure
f.t.s./free from chlorine	l.l./less truckload	pkgs./packages	tr./truckload
f.t.s./free from prussic acid	ll./liquid	powd./powdered	ton/refs to short ton of 2,000 pounds
flb./filter	m-/meta	precip./precipitated	TV./temporary
f.o.b./free on board	m.s.p./mixed aniline point	prod./producer	voluntary allowance
f.o.b./freeing point	neg./microgram	pt./point	l.w./linkwagons
ft./weight	mfr./manufacturers	pkb./pulverized	
	min./minimum	purif./purified	
g./gamma	molt./moltan	redist./redistilled	USP./United States Pharmacopoeia
gal./gallon	m.p./melting point	reid./refined	
g.o./general purpose	N/nitrogen	refy./refinery	vis./viscosity
gran./granular	n./normal	res./resubmit	VMP./varnish makers and painters
grd./ground	nat./natural	ret./returnable	
	neu./neutral	SD./specially denatured	
l.b.p./initial boiling point	NF./National Formulary	s.d./single distilled	W/West
Imp./imported	No./number	S./Southeast	whse./warehouse
	Num./nominal	sec./secondary	w.w./water-soluble

NOTE: Unit-ton is 1 percent of 2,000 pounds of the basic constituent or other standard of the material. The percentage figure of the basic constituent multiplied by the unit-ton price shown in Chemical Marketplace Reporter gives the price of 2,000 pounds of the material.

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Cadmium, CP, red, dark shade, bibs, 100-10s. lrt. alt. E. of Rockies	11.33	18.35
light shade, bibs, same basic	9.18	12.06
medium shade, bibs, same basic	10.89	15.20
medium-light shade, bibs, same basic	10.28	14.50
Cadmium, CP yellow, all shades, bibs, 100-10s. lrt. alt. E. of Rockies	6.10	7.07
Cadmium fluoroborate, liq. conc. dms. l.t., works, lrt. equid.	2.27	-
medium-light shade, bibs, same basic	3.22	-
Cadmium-mercury lithopone medium shade, bibs, lrt. alt. E. of Rockies	4.80	-
metal ingots or sticks, ton lots, cs., divd.	1.20	1.05
Cadmium nitrate, pure, 100-10s. lrt. dms. c.l., l.t. ship. plumb.	2.10	-
Cadmium-selenide lithopone, orange light shade, bibs, 400-4s. lrt. l.t. alt. E. of Rockies	3.87	4.00
deep shade, bibs, same basic	4.47	4.50
Cadmium-selenide lithopone, dark shade, bibs, same basic	6.77	6.85
light shade, bibs, same basic	5.27	5.30
medium light shade, bibs, same basic	6.72	6.78
medium shade, bibs, same basic	8.37	8.48
dark shade, bibs, same basic	7.47	-
Cadmium-selenide lithopone, yellow, all shades, bibs, same basic	2.97	3.00
Cadmium sulfate, 50-5s. dms. in quantity, l.t. ship. plumb.	4.05	-
Caffeine, 100-10s. lrt. crys. anhyd. powd., 100-10s. dms. c.l., l.t. lrt. alt.	5.80	-
Imp., crys. anhyd. powd., dms. 10,000 lbs. or more	5.80	-
Calcium, 100-10s. lrt. alt. E. of Rockies	1.50	1.71
Calcium oil, 100-10s. lrt. alt. E. of Rockies	26.60	36.00
Calciferol (see Ergocalciferol)	-	-

Tars. Hanks. 47-59% (see Terephene).		
Camphor, monobromated, dms.,		
lbs.	..... lb.	3.63
Camphor, syn., tech., 185-lb. dms.,		
5,000 lbs. or more	..... lb.	1.80
USF, powd., 185-lb. dms.		
lb. or more	..... lb.	2.36
syn., rafd., 1-oz. tablets, cins. 1,000-		
lbs. or more	..... lb.	3.50
Camphor oil, yellow, 26-lb. dms.		
lb.	..... lb.	1.85
white, dms.	..... lb.	2.00
spec. grav., 1.070	..... lb.	2.65
Canola oil, Indonesian, dms.		
lb.	..... lb.	17.50
Cannella wtx., crude, bgs.		
lb.	..... lb.	1.90
refid. pure, bgs.	..... lb.	2.10
Capric acid, cont. pure, dms.		
lb.	..... lb.	6.0
Capris (see Tetrahydro-10) dms.,		
cins.	..... lb.	3.95
Caproctetam monomer, falks, bgs., U.I.		
l.o.b. shipping point	..... lb.	.87
molten, tanks, same base	..... lb.	.85
Capryl alcohol, sec. 92-98% falks,		
l.o.b. works	..... lb.	.36
Caprylic acid, cont. pure, tanks		
lb.	..... lb.	.73%
Capulium (see Pepper, red)		
Capulium oil (see Capelium oleoresin)		
Capelium oleoresin, NF, from dom.,		
pepper, dms.		
NF from African pepper	..... dms.	11.00
500,000 pungency	..... lb.	9.00
1,000,000 pungency	..... lb.	17.00
Caraway oil, Poland, dms.		
lb.	..... lb.	22.00
Caraway seed, Dutch, bgs.		
lb.	..... lb.	5.50
Caraway seed, Egyptian, bgs.		
lb.	..... lb.	.50
Carbox black, furnace, fast extruding		
(FEF), bulk, o.i. works	..... lb.	.2125
bgs., o.i. works	..... lb.	.2425
general purpose (GPF), bulk, o.i.		
works	..... lb.	.2075
bgs., o.i. works	..... lb.	.2375
high abrasion (HAF), high structure,		
bulk, o.i. works	..... lb.	.2300

	Cedarleaf pine, resin, Indian, Canada	lb.	17.50
	Caulic acid (see Soda, caustic)		
70	Cedarwood oil, Texas, dms., cons.. lb.	1.75	
	Virginia..... lb.	4.75	
	Cedron, prime dms..... lb.	5.25	
	Cedro acetate, clay..... lb.	4.25	
	Celery seed, Indian, bgs..... lb.	.46	
	Celery seed oil..... lb.	37.00	
	Cellulose acetate, powd., bgs., 11, divd. E..... lb.	1.30	
	Cellulose acetate butyrol. powd., 17% butyl content, bgs., 11, divd. E..... lb.	1.75	
95	38% butyl content, bgs., divd. E..... lb.	1.59	
	50% butyl content, bgs., divd. E..... lb.	1.81	
95	55% butyl content, bgs., divd. E..... lb.	1.83	
	Celastone gum, pure, high vis., bgs., 24.0-lb. Hopewell, Va..... lb.	1.80	
35	sid., low or medium vis., bgs., 24.0-lb. Hopewell, Va..... lb.	1.80	
	U. I., Coln. Hopewell, Va..... lb.	1.80	
	Cerium concentrate CaO, 60 lbs.... lb.	1.35	
	Cerium hydrosulfide 90% CeO ₂ , dms., works..... lb.	5.40	
	77% CeO ₂ , dms., grade, bgs..... lb.	4.20	
	Cerium oxide, optical grade, bgs., 50- lb. lots or more, divd..... lb.	1.85	
	Chalcid alcohol, NF, cons., C. I., divd. E. lb.	.5874	
	(see Calcium carbide)		
	Chemical flowers, Hungarian, cal... lb.	4.25	
	Roman, cs..... lb.	4.94	
	Egyptian, whole..... lb.	2.70	
00	Chamonille oil, blue, Egyptian..... lb.	\$45.00	
00	blue, Hungarian..... lb.	\$7.00	
	China, white, 100 lbs..... lb.	17.50	
	Chicago acid, dry, obs., frl, and divd..... lb.	13.50	
55	Chiles (see Pepper, red)		
	Chloroform anhydride, tech., dms., 11, works..... lb.	1.30	
	Chlorinated paraffin, chlorides, bulk, divd., Zone 1..... lb.	.46	
	50% chlorine, same basis..... lb.	.46	
	60% chlorine, same basis..... lb.	.46	
	70% chlorine, technical, 50-lb. lots..... lb.	.49	

2.50
2.60
2.70
2.80
2.90
3.00

48 1/2
47 1/2
46 1/2

WEEK ENDING DEC 5, 1986

WEEK ENDING DEC 5, 1986

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Potassium bichromate, gran., 400-lb. dms., c.i., l. works.	.48	-	Potassium tetraborate, gran., bgs., c.i. works.	1.10	-
Potassium bifluoride, tech. dms., l. works, frt. equiv.	.45	.49	dms., same basic.	1.15	-
Potassium bitartrate, NF, gran., powd., bgs.	.90	1.20	Potassium tetraborate powder 15c. per ton.	1.18	-
Potassium borohydride, 500-lb. dms., 100-1,000 lbs. works.	18.00	20.00	Potassium thiocyanate, USP, cryst., 225-lb. dms., c.i., l. works.	4.01	-
Potassium bromate, gran., powd., 200-lb. dms., c.i., f.o.b. works.	1.08	-	tech. cryst., dms., c.i., l. works.	82	-
Potassium bromide, NF, gran., f.o.b. c.i. f.o.b. works.	1.12	-	Potassium titanate, ctms., c.i., works.	.71%	-
Potassium carbonate, 40, 47% K ₂ CO ₃ tanks, l.w., works.	14.80	-	Potassium-titanium fluoride, tech., 225-lb. dms., c.i., l. works, frt. equiv.	1.24	1.59
Potassium carbonate, 40, 47% K ₂ CO ₃ tanks, l.w., works.	20.65	-	Potassium-zirconium fluoride, tech., dms., l.i., l. works, frt. equiv.	.78	-
Potassium carbonate, 40, 47% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Prednisolone USP, 500-lb. dms., more.	1.03	-
Potassium carbonate, 40, 47% K ₂ CO ₃ bgs., c.i., l. works.	35.20	-	Prednisolone acetate, USP, dms., 1.12	-	-
Potassium carbonate, gran., purif., 400-lb. dms., 5-lm. lots.	36.40	-	Prednisolone, anhyd. USP, dms., 1.12	-	-
Potassium citrate, cryst. dms., c.i., works.	.14%	-	Procaine hydrochloride, USP, ambu-ol, acid grade, dms., 2,000-lb. lots, frt. equiv.	4.95	5.75
Potassium chloride, 99.95% KCl, bulk, c.i., f.o.b. shipping point.	.40	-	Procaine hydrochloride, USP, ampule grade, dms., 1,000-lb. lots, frt. equiv.	4.85	5.50
Potassium chloride, chemical grade, 99.95% KCl, bulk, c.i., f.o.b. shipping point.	105.00	-	Propionitrile, ethyl, syn. pure, tanks, divd. E.	.39%	-
Potassium chromate, purif., c.i., dms., works.	.57	-	n-Propyl acetate, tanks, divd.	.33	30%
Potassium citrate, NF, gran., 200-lb. dms., frt. ali.	.93%	-	n-Propyl alcohol, tank, f.o.b. lot.	.55%	-
Potassium cyanide, dms., 20,000-lb. lots or more.	1.32	-	n-Propyl gallate, dms., 100 to 2,000-lb. lots, divd.	.42	.44
Potassium dichromate (see Potassium bichromate).	-	-	n-Propyl-p-hydroxybenzoate, USP, 500 lbs.	11.50	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	tech. 500 lbs. lots.	10.80	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	Propyl parabens (see n-Propyl-hydroxybenzoate).	10.26	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propyl parabens, dms., 50-100 lbs. lots or more.	85.00	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	n-Propylamine, dms., c.i., divd.	.75	.90
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	Propylene, polymer grade, f.o.b. Tex. and La. Gulf Coast points.	.17%	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	chemical grade same basic.	.15%	.16
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	USP tanks, f.o.b. E.	.43	.44
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	USP tanks, f.o.b. E.	.43	.44
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	USP tanks, f.o.b. E.	.43	.44
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	USP tanks, f.o.b. E.	.43	.44
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	USP tanks, f.o.b. E.	.43	.44
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	USP tanks, f.o.b. E.	.43	.44
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
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Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	35.20	-	USP tanks, f.o.b. E.	.43	.44
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	36.40	-	Propylene glycol monomethyl ether, tanks, divd. E.	.49	-
Potassium fluoride, 99.95% K ₂ CO ₃ hopper cars or trucks.	32.50	-	Propylene glycol, indust. tanks, f.o.b. E.	.41	.41
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CHEMICAL PRICES

WEEK ENDING DEC 5, 1986

Sorbilan monoacetate, dms., c.i., l., 30,000 lb. min., f.o.b. works	76	-
Sorbilan tristearate, c.i., l., 10,000 lb. min., f.o.b. works	80	-
Sorbitol, USP, reg. 70% aqueous, dms., c.i., f.o.b. shipping point	35	-
(tanks, f.o.b. shipping point)	30	-
gran. dms., c.i., l., works	70	7
powd. dms., c.i., f.o.b. shipping point	68	7
Soybean meal (See Oils, Fats & Waxes market report)		
Soybean oil (See Oils, Fats & Waxes market report)		
Soybean of adulterated, soapstock		
25% oil, 75% soap, f.o.b. New York	14	-
Soybean oil, acid, dsl., dms., dms.	48	5
tanks	43	4
dsl. dms.	47	4
sperm. leaves, m. b.	38	4
Spartan, m. b.	250	2
Spearmint, Far West, native	950	-
Chinese, 60%	580	-
Chinese, 80%	800	-
Far West, worth	1850	-
Spruce oil	800	-
St. John's bread, edible, lbs.	29	3
Stannic chloride, anhyd., dms.	N.A.	-
Stannic oxide, dms. works	N.A.	-
Stannous chloride, anhyd. dms. vks.	N.A.	-
Stannous fluoride, liq. conc. dms., l., f.o.b. equiv.	250	-
Stannous chloride, works	N.A.	-
Stannous sulfate, dms. works	N.A.	-
Stearic acid, double pressed, bulk	26	-
single-pressed, bulk	28	-
true grade, bulk	32	-
Stramonium leaves, bgs.	15	-
Streptomycin sulfate, USP, bulk	4700	-
Strontium carbonate, glass grid, bgs.	37 1/2	-
Strontium nitrate, 50-15 bgs. works	51.50	-
Styrene monomer, 99.9% min., l.c., l., f.o.b. equiv.	23	-
Styrene-acrylonitrile res. nat. l.c.	77	-
to B plant	77	-
cryst. bulk, same basis	77	-
clear, same basis	77	-
Styrol acetate	235	-
Synthetic acid, pure, crysl., dms. l., h. acid	200	2
Succinic anhydride, dms. c.i., f.o.b. works	171	-
Sucrose, rehd., white, bgs., c.i., f.o.b. rely. E.	33.10	-
Sucrose acetate, isobutyrate, 90% dms. l., divd.	110	-
tanks, dsl.	118	-
100% dms., l., divd.	118	-
Sucrose octa-acetate, denaturing grade, 100-lb. bins, f.o.b.	1250	13
Sulfabenzamide, 500 kilos, bulk	39.50	-
Sulfabenzamide-sodium, dms., 500 kilos	25.00	-
Sulfacotamine, USP, dms., 500 kilos	20.00	23
Sulfadiazine, USP, powd. dms., 500 kilos	53.00	-
Sulfadiazine-sodium, USP, dms., 500 kilos	40.70	-
Sulfamerazine, USP, microcrystals, dms., 500 kilos	33.50	-
USP, powd., dms., 500 kilos	32.00	-
Sulfamethiazole-sodium, USP, dms., 500 kilos	13.00	-
Sulfamethazine, powder, dms., 500 kilos	9.00	10
Sulfanilic acid, cryt., bgs., l.c., l., works	38.00	41
Sulfanilic acid, gran., c.i., l., l., works	38	-
Sulfanilic acid, rehd., 100-500 lbs. fr. equiv.	2.90	-
Sulfanilic acid, tech., bgs., l., f.o.b. works	.87 1/2	-
Sulfanilic acid, vegetable, grade, dms.	8.60	-
Sulfur, crude, light, moist, dms., 118.00 vessels, Gulfports	118.00	120
f.o.b. Gulfports	120.00	122
recovered, dtd., Houston	120.00	122
external, Rotterdam	135.00	-
f.o.b. tanks, Alberta, Canada, for U.S. buyers	80.00	85
dark, ex-Texas, Fla.	162.50	-
Tampa price subject to \$10 per long-ton discount for most customers		
Sulfur, crude, 5% min. purity, cont. lour, 50-lb. bgs., c.i., mines	13.50	-
lump, same basis	13.50	-
Sulfur, rehd., 98.5% min. purity, cont. 100-lb. bgs., c.i., mines	17.50	-
lour, light, 50-lb. bgs., same basis	20.00	-
Sulfur, rehd., submd. NF, 99.95% min. purity, 50-100 lbs., c.i., mines base	26.00	-
Sulfur, rubbermaster, 98.9% min. pur. dy. cont., rehd., 50-lb. bgs., c.i., mines base	14.80	-
fine, 98% min. passing through 325 mesh, same basis	15.60	-
Sulfur dioxide, c.i., works, fr. equiv.	.24	-
tanks, same basis	.1794	-
Sulfur dioxide, liq. bulk, l.c., l., l., lour	230.00	-
Sulfur monochloride, dms., c.i., f.o.b. fr. equiv.	.22 1/2	-
tanks, same basis	.1694	-

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CHEMICAL PROFILE

n-PARAFFINS

December 8, 1986

SUPPLY	CAPACITY*
PRODUCER	
Exxon, Baytown, Tex.	525
Shell, Houston, Tex.	220
Vista, Lake Charles, La.	330
Total	1,075

*Millions of pounds annually of C₁₀ and higher normal paraffins. Shell consumes most of its production internally for making linear alcohols. Vista uses most of its output for linear alkylbenzene production. Texaco sold a refinery in Pointe-a-Pierre, Trinidad to the state-owned Trinidad and Tobago Oil Company, Ltd., in March 1985. Trintoc operates an n-paraffins facility rated at 200-million-pounds-per-year at the refinery. Texaco used to export half this output to the US, but due to feedstock limitations, Trintoc has not shipped any n-paraffins to the US this year. Profile last published 11/7/83; this revision, 12/8/86.

DEMAND
1985: 665 million pounds; 1986: 680 million pounds; 1990: 735 million pounds.

GROWTH
Historical (1976-1985): zero growth; future: 2 percent per year through 1990.

PRICE
Historical (1985-1986): High, 22c. per pound, bulk, works, detergent uses; low, 4 1/2c. per pound, same basis. Current: NA

USES
Linear alkylbenzene, 68 percent; exports, 16 percent; linear alcohols, 10 percent; solvents, 4 percent; chlorinated paraffins, 2 percent.

STRENGTH
The success of liquid laundry detergents such as "Liquid Tide," coupled with several reformulations of powdered detergents with higher surfactant levels, has given a strong boost to LAB and n-paraffins demand in the past two years. The sharp decline in crude oil prices in 1986 have lowered kerosene prices, the main raw material in n-paraffin production.

WEAKNESS
As recently as five years ago, up to 80-million pounds per year of n-paraffins were consumed in citric acid production. Since then, though, the market has gone entirely over to less costly feedstocks such as corn starch and molasses. Chlorinated paraffin demand has sunk in line with the weak oil drilling market.

OUTLOOK
Penetration of LAB-based surfactants into the home laundry detergent market has nearly peaked, and future growth will track the GNP. Raw material availability has hindered the production of n-paraffins in Trinidad, but it is not considered a major problem in the US.

Du Pont Has 'Tough' PET For Packaging Applications

E.I. du Pont de Nemours & Co. has introduced a versatile new intermediate performance barrier plastic, which the company thinks should substantially expand the use of PET in food and solvent packaging.

"Sellar PT," the most recent addition to Du Pont's "Sellar" barrier packaging plastics family, shows excellent solvent resistance and moderate oxygen barrier properties, and can be extruded or blow molded into flexible or rigid forms.

The product is described as a "toughened" PET, the reinforcement process uses proprietary technology, currently being licensed. The resins are said to have all the physical characteristics of PET except for clarity, yet require no crystallization or orienting for toughness.

Using "Sellar PT," containers can be made using economical processing methods for which ordinary PET is unsuited; they can be injection molded, blow molded, and blown or cast into film, according to Richard A.L. Eldman, "Sellar" barrier resins product manager.

Economical processing, along with good solvent barrier properties, make "Sellar PT" the first plastic resin capable of displacing large, wide-mouth metal and glass containers in a wide range of applications, including non-denting, non-rusting plastic cans for solvent-based paints and varnishes, and containers for waxes, pastes, and household cleaners.

European Chemical Industry Called Adaptive but Vulnerable

After more than a decade of painful adjustments, European chemical firms "are lean and adaptive and can face an uncertain future with some confidence," according to an industry analyst.

David Ingles, of the London securities firm Greenwell Montagu, also issues the now-familiar caution, though, that the European industry is "extremely vulnerable" to the buildup of capacity in new producing regions, such as the Middle East.

"The overall additions to global capacities are huge and in a number of products they equate to or even exceed the total existing capacity in Western Europe," Mr. Ingles pointed out in an address before the Chemical Industries Association in London.

Noting the European chemical industry's dependence on international trade, Mr. Ingles says Europe's ability to remain competitive in export markets, as well as in its home markets, will be the most important issue facing industry through the end of this century.

The emergence of new producing regions means that further rationalizations will probably be necessary in the European

chemical industry to insure stability and adequate returns on investment. "This will probably require not only a further reduction in capacity but a reduction in the number of producers," Mr. Ingles says.

"My personal view," he adds, "is that a further reduction in the number of producers is a greater priority than the straight elimination of capacity."

He says he hopes this can take place in part by the withdrawal of the weaker players and also by such arrangements as the joint venture in polyvinyl chloride initiated by Imperial Chemical Industries PLC and ENI.

On the whole, Mr. Ingles says he does not see a need for a "further massive reduction" in capacity levels in Europe, observing the current plant operating rates are very high for some products.

And he warns chemical manufacturers about the need to invest, as well as rationalize, noting that the average age of petrochemical plants in Europe is about ten years old.

Without such investment, he says, the chemical industry risks going the way of the steel industry.

JOBS & PEOPLE



Alan F. Hume, who has been named marketing director for the food and cosmetic color business of Morton Thiokol Inc. He will be based in Chicago and be responsible for developing the Division's business in North America.

Agro Ingredients Names Two Managers

Agro Ingredients, Inc. has appointed Richard Daback director of industrial sales and marketing and Gloria Anderson product manager for powdered treasures and food product sales.

Mr. Daback joins Agro Ingredients, Inc. from Emery Chemicals of Cincinnati, Ohio. Mrs. Anderson joins Agro from D.D. Williamson & Co. of Louisville, Ky.

The appointments are part of Agro Ingredients, Inc.'s realignment of the company's marketing department into two groups.



R. Daback



G. Anderson

to the newly created position of automotive market development manager at Polymer Composites, Inc. FRANK R. BAGSHAW has been named director of industrial and oil field marketing at the Kelco Division of Merck & Co.

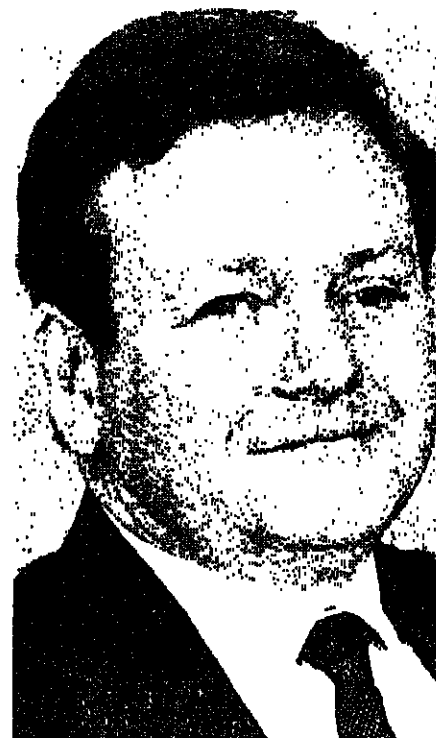


C.S. Nigon



R. Runde

LARRY C. SHELTON has been named director of international business development at Rabson Purina Company. CASEY L. CORDON has been appointed technical sales representative for the Coatings and Additives Division of Hercules Inc. TONY L. WHITE has been elected corporate vice-president of Baxter Travenol Laboratories, Inc., respon-



Bruce M. Beckwith, who has been named chief executive officer of UNIMED, Inc. as director of marketing.

sible for the company's diagnostics business group.

EDWARD E. GILLESPIE has been appointed general manager of chemicals and products supply and ALBERT E. RUSCILLI has been appointed manager of engineering at Amoco Corporation. WILLIAM P. RAYMOND has been named vice-president and general manager of Badger Engineers, a subsidiary of Raytheon Company.

J.M. CANNON has been elected chairman of Coda International and K.G.G. HOPKINS has been appointed to succeed him as group



A.K. Youngs



F.R. Bagshaw

Pfaudler Appoints Two Managers

Pfaudler Company of Rochester, NY has named Bruce M. Beckwith manager of the company's Alloy Business Unit and William A. Carlson manager of materials and of process and product development.

Mr. Beckwith previously held the position of product manager in the Alloy Business Unit. He joined Pfaudler in 1985 after moving from a position as product manager in California.

Mr. Carlson, with Pfaudler for 31 years, leaves his most recent assignment as manager of research and development to manage materials and process and product development.



B.M. Beckwith



W.A. Carlson

chief executive officer of UNIMED, Inc. as director of marketing. DR. THOMAS J. HOPP has been elected



L.C. Shelton



G.L. Gordon

head of the department of protein chemistry and DR. DAVID L. URDAL has been elected head of the department of biochemistry at Immunex Corporation. JEAN-PIERRE TIROUFIET has been named director of financial services at Rhone-Poulenc in France.

MEETINGS CALENDAR

December 8, 1986

THIS WEEK

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd annual meeting, Marriott Harbor Beach Resort, Fort Lauderdale, Fla., December 7-11.

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION, 65th annual dinner, Windward on the World, New York, N.Y., December 11.

THIS MONTH

SALES ASSOCIATION OF THE CHEMICAL INDUSTRY, annual Christmas party, New York Hilton Hotel, New York, December 16; education committee, seminar, "The Psychology of Selling," Treadway Inn, Saddle Brook, N.J., December 18.

NORTHEASTERN CHEMICAL ASSOCIATION, annual December luncheon, New York Athletic Club, New York, December 18.

JANUARY

CHEMICAL INDUSTRY ASSOCIATION, luncheon meeting, Parker Mariden Hotel, New York, January 29.

SOAP AND DETERGENT ASSOCIATION, 80th Annual Meeting and Industry Convention, Boca Raton Hotel and Club, Boca Raton, Fla., January 29-February 1, 1987.

LATER ON

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, center for chemical process safety, international conference on chemical safety issues, Omni Shoreham Hotel, Washington, D.C., February 3-5.

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 12th annual Spring workshop and exhibition, Skyline Ottawa Hotel, Ottawa, Ontario, Canada, April 27-30.

CHEMICAL GROUP OF NATIONAL ASSOCIATION OF PURCHASING MANAGERS, mid-Winter conference, "Purchasing — Opportunity in a Changing World," Baton Rouge Hilton Hotel, Baton Rouge, La., February 18-20.

CHEMICAL MARKETING RESEARCH ASSOCIATION, Houston Meeting: "The US Chemical Industry—Responding to Change," Westin Galleria Hotel, Houston, Tex., February 4-5, 1987.

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd mid-year meeting, Chicago Marriott Hotel, Chicago, Ill., April 26-29.

CHINACHEM '87, international exhibition on chemical and petrochemical industries, China International Exhibition Center, Beijing, China, April 3-8.

CHLORINE INSTITUTE, Winter meeting, Mayflower Hotel, Washington, D.C., March 15-19.

DRUG, CHEMICAL & ALLIED TRADES ASSOCIATION, 81st annual dinner, Waldorf-Astoria Hotel, New York, March 19; Spring luncheon, Sheraton Centre Hotel, New York, N.Y., June 11.

FERTILIZER INSTITUTE, 1987 annual meeting, Marriott Orlando World Center, Orlando, Fla., February 1-3.

FIRE RETARDANT CHEMICALS ASSOCIATION, international conference on flame retardancy and fire safety, Sheraton New Orleans Hotel, New Orleans, La., March 22-25.

INSTITUTE OF GAS TECHNOLOGY, 11th annual symposium on energy from biomass and wastes, Hotel Royal Plaza, Walt Disney World Village, Buena Vista, Fla., February 2-5.

INTER-SOCIETY COLOR COUNCIL, scientific conference, Williamsburg Lodge, Williamsburg, Va., February 8-11.

NATIONAL PETROLEUM REFINERS ASSOCIATION, 85th annual meeting, Convention Center, San Antonio, Tex., March 29-31; 12th international petrochemical conference, Convention Center, San Antonio, Tex., April 5-7.

POLYURETHANE MANUFACTURERS ASSOCIATION, Spring meeting, commercial development of new castable systems, Fairmont Hotel, Dallas, Tex., April 28-29.

SOCIETY OF THE PLASTICS INDUSTRY, 42nd annual conference of the reinforced plastics and composites, Cincinnati Convention & Exhibition Center, Cincinnati, Ohio, February 2-8.

THE FERTILIZER INSTITUTE, 1987 Annual Meeting, Marriott Orlando World Center, Orlando, Fla., February 1-3, 1987.

BUSINESS BRIEFS

OXO FOAM PRODUCTS Company has announced its new technology and development center in Atlanta. The center includes a research laboratory, a process development section and a new technology section. The center will employ about 30 people. Amoco Products makes foamed polystyrene products, packaging trays and in-line products at nine plants throughout

INDUSTRIES Corporation, Bristol, Pa., has commercialized its first UV curable silicone splices and embedding resin with a refractive index matched to fiber optic silica. The new material meets the demands of high-speed fabrication processes in optical coupling applications, the company says.

EASTMAN KODAK Company has picked Pennsylvania as the headquarters location for its Pharmaceuticals Division. The first phase of the division's plans call for leasing

two buildings in the Great Valley Corporate Center near Malvern, about 20 miles Northwest of Philadelphia. Long term, Kodak plans to create a pharmaceutical business focused on prescription products, in-vivo diagnostics and over-the-counter drugs.

HENKEL CORPORATION'S Organic Products Division has introduced a new line of seven different pearlescent concentrates, which provide specific pearlescing agents for a variety of personal care product manufacturers' needs, the company says. Formulations using the "Standalon" and "Euperlan" pearlescent products were developed in Henkel's US applications laboratory.

M&T CHEMICALS, Rahway, N.J., has published a new brochure describing its line of "Thermolite" heat stabilizers and "Metablen" impact modifiers and process aids for use in the production of PVC plastic packaging. The 6-page brochure lists and de-

scribes 10 "Thermolite" stabilizers for PVC film, sheet and bottles, five FDA-sanctioned "Metablen" impact modifiers and five FDA-approved "Metablen" process aids.

SHELL has picked John Hellyar & Co. to distribute its UV-resistant toughened polystyrene in the UK. Shell's "Styrosum" product, formerly known as "Hostyren" XS, has been available in the UK since January, following the acquisition by Shell Nederland Chemie BV of Hoechst's polystyrene plant in Breda, the Netherlands.

VIRGINIA CHEMICALS INC., a wholly-owned subsidiary of Celanese Corporation, plans to build a plant at one of its US sites for the manufacture of KMC, an odorless solvent used by the carbonless copying paper industry. Virginia Chemicals has been selling the product, made by Kurah Chemical Industry Company of Japan, since 1982 in the North American market.

December 8, 1986

CHEMICAL MARKETING REPORTER

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